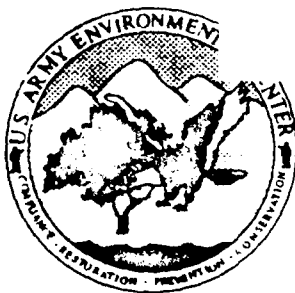


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REMEDIAL INVESTIGATION BADGER ARMY AMMUNITION PLANT BARABOO, WISCONSIN

FINAL REMEDIAL INVESTIGATION REPORT APPENDIX DATA ITEM A009

APPENDICES G THROUGH J VOLUME 3 OF 7

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REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

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REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

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GROUNDWATER ELEVATIONS AND FIELD DATA RECORDS

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Appendix G.1
Groundwater Elevation Data

TABLE G-1
GROUNDWATER ELEVATION DATA
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV.	3/14/89		10/25/89		12/13/89		6/15/90		10/22/90		12/15/91		4/7/92		
		WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	
LANDFILL #1																
LON - 91 - 01	917.51											144.69	772.82	144.60	772.91	
LON - 91 - 02	912.30											138.61	773.69	138.50	773.80	
LON - 89 - 01	917.86	142.71	775.15	143.58	774.28	144.00	773.86					146.12	771.74	146.04	771.82	
LON - 89 - 02A	920.59	145.67	774.92	148.75	771.84	146.94	773.65					149.24	771.35	149.17	771.42	
LON - 89 - 02B	921.13	146.17	774.96	146.46	774.67	146.76	774.37			149.26	771.87	149.74	771.39	149.69	771.44	
LON - 89 - 03A	922.14	147.49	774.65	148.54	773.60	148.89	773.25					151.03	771.11	150.96	771.18	
LON - 89 - 03B	921.99	147.14	774.85	148.20	773.79	148.49	773.50			150.03	771.96	150.66	771.33	150.59	771.40	
PROPELLANT BURNING GROUND																
PNB - 91 - 06C	848.29											82.87	765.42	83.00	765.29	
PNB - 91 - 06D	847.50											82.06	765.44	82.19	765.31	
PNB - 91 - 12C	854.42											90.15	764.27	90.15	764.27	
PNB - 91 - 12D	853.29											89.07	764.22	89.05	764.24	
PNB - 91 - 01B	850.53											84.95	765.58	85.17	765.36	
PNB - 91 - 01C	850.53											84.94	765.59	85.15	765.38	
PNB - 91 - 01D	850.53											84.95	765.58	85.19	765.34	
PNB - 91 - 02B	850.09											84.43	765.66	84.60	765.49	
PNB - 91 - 02C	850.09											84.40	765.69	84.61	765.48	
PNB - 91 - 02D	850.09											84.43	765.66	84.69	765.40	
PNB - 89 - 01B	872.33	100.39	771.94	101.36	770.97	101.79	770.54					104.02	768.31	103.94	768.39	
PNB - 89 - 01C	878.06	106.00	772.06	107.09	770.97	107.47	770.59					109.64	768.42	109.56	768.50	
PNB - 89 - 01D	874.05	102.14	771.91	103.03	771.02	103.42	770.63			105.08	768.97	105.62	768.43	105.55	768.50	
PNB - 89 - 02B	900.25	129.23	771.02	130.36	769.89	130.75	769.50					133.00	767.25	132.91	767.34	
PNB - 89 - 02C	897.04	125.71	771.33	126.89	770.15	124.32	772.72			128.92	768.12	129.52	767.52	129.42	767.62	
PNB - 89 - 03B	847.08	75.93	771.15	76.95	770.13	76.28	770.80					79.49	767.59	79.42	767.66	
PNB - 89 - 03C	846.87	74.83	772.04	76.02	770.85	76.38	770.49			78.05	768.82	78.60	768.27	78.52	768.35	
PNB - 89 - 04B	859.23	89.40	769.83	90.89	768.34	91.07	768.16			92.69	766.54	92.96	766.27	93.08	766.15	
PNB - 89 - 04C	859.70	92.20	767.50	91.70	768.00					93.56	766.14	92.90	766.80	94.03	765.67	
PNB - 89 - 05	855.58	83.79	771.79	84.92	770.66	85.32	770.26					87.55	768.03	87.47	768.11	
PNB - 89 - 06	886.37	114.45	771.92	115.45	770.92	115.83	770.54			117.98	768.39	117.98	768.39	117.87	768.50	
PNB - 89 - 07	849.36	79.73	769.63	80.99	768.37	81.21	768.15			96.87	752.49 #	96.87	752.49 #	83.32	766.04	
PNB - 89 - 08	888.56	119.00	769.56	102.15	786.41 #	120.57	767.99			122.46	766.10	122.46	766.10	122.48	766.08	
PNB - 89 - 09	883.48	107.70	775.78	108.81	774.67	109.12	774.36			111.31	772.17	111.31	772.17	111.20	772.28	

Notes are presented at the end of this table.

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV. FEET MSL	WATER DEPTH 3/14/89	WATER ELEV. 3/14/89	WATER DEPTH 10/25/89	WATER ELEV. 10/25/89	WATER DEPTH 12/13/89	WATER ELEV. 12/13/89	WATER DEPTH 6/15/90	WATER ELEV. 6/15/90	WATER DEPTH 10/22/90	WATER ELEV. 10/22/90	WATER DEPTH 12/15/91	WATER ELEV. 12/15/91	WATER DEPTH 4/7/92	WATER ELEV. 4/7/92
PBN-89-10A	889.65	115.38	774.27	116.50	773.15	116.81	772.84	117.67	771.98	118.59	771.06	119.04	770.61	119.08	770.57
PBN-89-10B	891.81	117.70	774.11	118.70	773.11	119.07	772.74					121.26	770.55	121.27	770.54
PBN-89-10C	887.00	112.50	774.50	113.57	773.43	113.91	773.09					116.11	770.89	116.14	770.86
PBN-89-10D	884.25	110.00	774.25	111.06	773.19	111.38	772.87			113.14	771.11	113.62	770.63	113.66	770.59
PBN-89-11	884.41	106.73	777.68	108.00	776.41	108.32	776.09	109.20	775.21	109.98	774.43	110.51	773.90	110.37	774.04
PBN-89-12A	855.66	87.25	768.41	89.33	766.33	89.46	766.20					91.23	764.43	91.32	764.34
PBN-89-12B	856.04	88.54	767.50	89.85	766.19	90.12	765.92					91.71	764.33	91.85	764.19
PBM-85-01	862.47	89.80	772.67	90.86	771.61	91.21	771.26					93.58	768.89	93.56	768.91
PBM-85-02	849.16	77.00	772.16	78.24	770.92	78.60	770.56					80.81	768.35	80.74	768.42
PBM-85-03	885.98	113.71	772.27	114.94	771.04	115.37	770.61					117.53	768.45	117.43	768.55
PBM-85-04	866.65	95.22	771.43	96.65	770.00	96.78	769.87					98.87	767.78	98.87	767.78
PBM-85-05	863.88	93.28	770.60	94.64	769.24							83.22	780.66 #	96.90	766.98
PBM-85-06	848.12	79.34	768.78	80.86	767.26	80.81	767.31					82.79	765.33	82.88	765.24
PBN-85-01A	874.56	102.18	772.38	103.37	771.19	103.74	770.82					105.96	768.60	105.87	768.69
PBN-85-02A	898.79	126.45	772.34	127.68	771.11	128.09	770.70					130.23	768.56	130.16	768.63
PBN-85-03A	851.22	79.07	772.15	80.35	770.87	80.87	770.35					82.96	768.26	82.90	768.32
PBN-85-04A	860.36	90.24	770.12	91.59	768.77	91.72	768.64					93.75	766.61	93.86	766.50
PBM-82-01	857.60	82.55	775.05	83.66	773.94	84.02	773.58					86.37	771.23	86.34	771.26
PBM-82-02	873.36	98.14	775.22	99.87	773.49	99.78	773.58					102.12	771.24	102.20	771.16
PBM-82-03	864.73	90.68	774.05	91.87	772.86	92.22	772.51					94.45	770.28	94.46	770.27
PBM-82-04	871.42	97.59	773.83	98.83	772.59	99.21	772.21					101.46	769.96	101.40	770.02
PBM-82-05	876.92	103.09	773.83	104.34	772.58	104.67	772.25					106.87	770.05	106.85	770.07
PBN-82-01A	884.38	106.35	776.03	109.55	774.83	110.00	774.38					112.16	772.22	112.11	772.27
PBN-82-01B	883.57	107.54	776.03	108.82	774.75	109.14	774.43					111.33	772.24	111.10	772.47
PBN-82-01C	883.77	107.72	776.05	109.03	774.74	109.34	774.43					111.51	772.26	111.42	772.35
PBN-82-02A	885.14	110.00	775.14	111.22	773.92	111.60	773.54					113.75	771.39	113.75	771.39
PBN-82-02B	884.99	109.67	775.32	110.98	774.01	111.26	773.73					113.48	771.51	113.49	771.50
PBN-82-02C	885.28	108.50	776.78	111.30	773.98	111.66	773.62					113.81	771.45	113.81	771.47
PBN-82-03A	859.94	86.58	773.36	87.71	772.23	88.11	771.83					90.35	769.59	90.23	769.71
PBN-82-03B	860.16	86.69	773.47	87.98	772.18	88.31	771.85					90.56	769.60	90.48	769.68
PBN-82-03C	860.06	86.63	773.43	87.91	772.15	88.21	771.85					90.47	769.59	90.36	769.70
PBN-82-04A	874.74	101.71	773.03	102.87	771.87	103.28	771.46					105.55	769.19	105.41	769.33
PBN-82-04B	874.58	101.47	773.11	102.75	771.83	103.07	771.51					105.31	769.27	105.25	769.33
PBN-82-04C	875.48	102.43	773.05	103.64	771.84	103.94	771.54					106.21	769.27	106.15	769.33
PBN-82-05A	878.50	105.00	773.50	106.22	772.28	106.49	771.01					108.68	769.72	108.68	769.82
PBN-82-05B	877.68	104.19	773.49	105.42	772.26	105.75	771.33					107.95	769.75	107.95	769.73
PBN-82-05C	878.18	104.58	773.60	105.83	772.35	106.21	769.97					108.43	769.75	108.40	769.78

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV. FEET MSL	3/14/89		10/25/89		12/13/89		6/15/90		10/22/90		12/15/91		4/7/92	
		DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.
SETTLING PONDS															
SPN-91-02D	824.03											62.22	761.81	62.04	761.99
SPN-91-03D	819.36											57.28	762.08	57.11	762.25
SPN-91-04D	802.58											40.69	761.89	40.48	762.10
SPN-89-01C	830.04	65.11	764.93	66.41	763.63	66.53	763.51			67.63	762.41	68.18	761.86	67.99	762.05
SPN-89-02A	823.67	58.80	764.87	60.16	763.51	60.27	763.40			61.85	761.82	61.85	761.82	61.66	762.01
SPN-89-02B	823.53	58.69	764.84	59.94	763.59	60.13	763.40			61.71	761.82	61.71	761.82	61.80	761.73
SPN-89-02C	822.60	57.76	764.84	59.00	763.60	59.26	763.34			60.79	761.81	60.79	761.81	60.61	761.99
SPN-89-03B	818.09	52.87	765.22	54.23	763.86	54.36	763.73			55.48	762.61	55.91	762.18	55.75	762.34
SPN-89-03C	818.25	53.08	765.17	54.41	763.84	54.59	763.66			55.58	762.67	56.05	762.20	55.88	762.37
SPN-89-04B	804.21	38.77	765.44	40.80	763.41	41.00	763.21			42.34	761.87	42.15	762.06	42.15	762.06
SPN-89-04C	803.17	38.31	764.86	39.78	763.39	39.88	763.29			41.26	761.91	41.05	762.12	41.05	762.12
SPN-89-05A	804.25	40.00	764.25	40.53	763.72	40.79	763.46	41.00	763.25	41.22	763.03	41.58	762.67	41.37	762.88
SPN-89-05B	804.02	39.14	764.88	40.39	763.63	40.63	763.39			41.08	762.94	41.41	762.61	41.19	762.83
DETERRENT BURNING GROUND/EXISTING LANDFILL															
DBM-89-01	895.99	110.55	785.44	112.17	783.82	112.85	783.14					115.85	780.14	115.87	780.12
DBN-89-02A	887.10	107.89	779.21	108.65	778.45	109.04	778.06					110.06	777.04	110.14	776.96
DBN-89-02B	886.90	107.71	779.19	108.33	778.57	108.89	778.01	109.53	777.37			109.96	776.94	110.03	776.87
DBM-89-03	898.85	119.59	779.26	120.28	778.57	120.69	778.16					121.80	777.05	121.83	777.02
DBN-89-04A	919.89	136.50	783.39	137.47	782.42	137.86	782.03					139.64	780.25	139.84	780.05
DBN-89-04B	920.14	140.76	779.38	141.60	778.54	142.04	778.10	142.72	777.42			143.35	776.79	143.39	776.75
DBM-89-05	900.43	113.97	786.46	114.74	785.69	115.14	785.29					116.54	783.89	116.66	783.77
DBM-82-01	918.72	139.13	779.59	140.05	778.67	140.45	778.27					141.64	777.08	141.64	777.08
DBM-82-02	920.16	136.57	783.59	137.58	782.58	137.98	782.18					139.60	780.56	139.79	780.37
DBN-82-01B	907.80	128.14	779.66	129.10	778.70	129.44	778.36					130.74	777.06	130.72	777.08
DBN-82-01C	907.36	127.69	779.67	128.63	778.73	129.05	778.31					130.23	777.13	130.23	777.13
ELN-91-07A	897.65											120.77	776.88	122.84	774.81
ELN-91-07B	895.88											118.98	776.90	119.02	776.86
ELM-91-10	923.04											145.93	777.11	146.02	777.02
ELM-89-01	922.73	142.48	780.25	143.17	779.56	143.56	779.17					144.68	778.05	144.78	777.95
ELN-89-02A	921.10	140.74	780.36	142.72	778.38	143.20	777.90					144.22	776.88	144.27	776.83

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV. FEET MSL	3/1/89 DEPTH	3/1/89 WATER ELEV.	10/25/89 DEPTH	10/25/89 WATER ELEV.	12/13/89 DEPTH	12/13/89 WATER ELEV.	6/15/90 DEPTH	6/15/90 WATER ELEV.	10/22/90 DEPTH	10/22/90 WATER ELEV.	12/15/91 DEPTH	12/15/91 WATER ELEV.	4/7/92 DEPTH	4/7/92 WATER ELEV.
ELN-89-02B	920.19	141.88	778.31	143.91	776.28	142.94	777.25					143.95	776.24	143.98	776.21
ELN-89-03	916.28	137.24	779.04	137.94	778.34	138.28	778.00					139.28	777.00	139.31	776.97
ELN-89-04A	926.28	147.34	778.94	147.97	778.31	148.21	778.07					149.42	776.86	149.47	776.81
ELN-89-04B	926.63	148.62	778.01	149.19	777.44	149.60	777.03					150.57	776.06	150.63	776.00
ELN-89-05	900.95	121.18	779.77	122.26	778.69	122.45	778.50					123.48	777.47	123.53	777.42
ELN-89-06B	908.22	129.59	778.63	139.47	768.75	130.58	777.64					131.49	776.73	131.57	776.65
ELN-89-07	916.19	138.11	778.08	138.67	777.52	139.02	777.17					139.97	776.22	140.01	776.18
ELN-89-08	906.04	126.93	779.11	127.72	778.32	128.03	778.01					129.07	776.97	129.12	776.92
ELN-89-09	921.79	140.16	781.63	140.80	780.99	140.94	780.85					142.58	779.21	142.79	779.00
ELN-82-01A	905.02	124.51	780.51	125.62	779.40	125.90	779.12					127.20	777.82	127.24	777.78
ELN-82-01B	904.75	124.29	780.46	125.39	779.36	126.39	778.36					126.99	777.76	126.99	777.76
ELN-82-01C	905.06	124.99	780.07	126.00	779.06	125.72	779.34	127.10	777.96			127.62	777.44	127.70	777.36
ELN-82-02A	916.00	136.19	779.81	137.37	778.63	137.55	778.45					138.61	777.39	138.58	777.42
ELN-82-02B	916.62	136.77	779.85	137.39	779.23	138.09	778.53					139.19	777.43	139.17	777.45
ELN-82-02C	916.19	136.38	779.81	137.82	778.37	137.73	778.46	138.22	777.97			138.78	777.41	138.75	777.44
ELN-82-03A	927.68	147.92	779.76	149.08	778.60	149.30	778.38					150.40	777.28	150.44	777.24
ELN-82-03B	927.45	148.11	779.34	149.00	778.45	149.32	778.13					150.34	777.11	150.40	777.05
ELN-82-03C	926.93	147.59	779.34	148.47	778.46	148.85	778.08					149.82	777.11	149.88	777.05
ELN-82-04A	923.72	141.48	782.24	143.93	779.79	144.33	779.39					145.63	778.09	145.74	777.98
ELN-82-04B	924.18	142.91	781.27	144.66	779.52	145.03	779.15					146.35	777.83	146.44	777.74
ELN-82-04C	923.73	143.65	780.08	145.00	778.73	145.38	778.35	146.00	777.73			146.46	777.27	146.60	777.13

ROCKET PASTE AREA/NITROGLYCERINE POND/NEW ACID AREA

NPM-89-01	862.77					85.44	777.33	86.08	776.69	86.42	776.35	86.69	776.08	86.75	776.02
RPM-91-01	873.96											100.20	773.76	100.28	773.68
RPM-89-01	888.65					112.85	775.80	113.35	775.30	113.76	774.89	113.89	774.76	114.08	774.57
RPM-89-02	874.76					98.83	775.93	99.41	775.35	99.77	774.99	99.93	774.83	100.12	774.64
NAN-81-01A	913.50	133.90	779.60	134.62	778.88	135.00	778.50					136.41	777.09	136.46	777.04
NAN-81-01B	912.32														
NAN-81-02B	914.99	135.03	779.96	136.06	778.93	136.49	778.50					137.93	777.06	137.97	777.02
NAN-81-03B	915.21	136.30	778.91	136.44	778.77	136.81	778.30					138.28	776.93	138.32	776.89
NAN-81-03C	915.02	135.00	780.02	136.15	778.87	136.50	778.30					137.99	777.03	138.04	776.98
NAN-81-04A	925.22			117.25	807.97										

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV. FEET MSL	WATER DEPTH 3/14/89	WATER ELEV. 3/14/89	WATER DEPTH 10/25/89	WATER ELEV. 10/25/89	WATER DEPTH 12/13/89	WATER ELEV. 12/13/89	WATER DEPTH 6/15/90	WATER ELEV. 6/15/90	WATER DEPTH 10/22/90	WATER ELEV. 10/22/90	WATER DEPTH 12/15/91	WATER ELEV. 12/15/91	WATER DEPTH 4/7/92	WATER ELEV. 4/7/92
NAN-81-04B	925.91	145.90	780.01	147.02	778.89	147.44	778.47					148.91	777.00	148.95	776.96
NAN-81-04C	925.25	145.18	780.07	146.36	778.89	148.74	776.51					148.22	777.03	148.26	776.99
OLD ACID AREA/OLD FUEL OIL TANK															
OAM-91-01	877.04											91.45	785.59	91.36	785.68
OAM-89-01	874.38					86.52	787.86	87.76	786.62	87.95	786.43	88.37	786.01	88.29	786.09
OAM-89-02	874.91					87.35	787.56					89.19	785.72	89.11	785.80
FTM-89-01	874.27					86.63	787.64	87.85	786.42	88.15	786.12	88.70	785.57	88.64	785.63
BACKGROUND															
BGM-91-01	876.01											61.54	814.47	65.60	810.41
BGM-91-02	876.61											78.00	798.61	77.18	799.43
BGM-91-03	863.56											80.41	783.15	80.36	783.20
OLEUM PLANT AND POND															
OPM-89-01	925.99					66.10	859.89	65.52	860.47	66.25	859.74	65.40	860.59	65.92	860.07
OPM-89-02	879.46					100.26	779.20			100.93	778.53	101.53	777.93	101.39	778.07
OPM-89-03	929.75					151.43	778.32	152.10	777.65	152.29	777.46	152.84	776.91	152.84	776.91
BASISWIDE WELLS															
S1101	830.21	65.17	765.04	66.55	763.66	66.76	763.45	67.33	762.88	67.84	762.37	68.34	761.87	68.15	762.06
S1102	809.13	44.43	764.70	45.76	763.37	45.94	763.19	46.36	762.77	46.87	762.26	47.45	761.68	47.02	762.11
S1103	809.13	44.21	764.92	45.67	763.46	45.91	763.22					47.24	761.89	47.00	762.13
S1104	839.21	74.33	764.88	75.58	763.63	75.81	763.40			76.41	762.80	76.82	762.39	76.66	762.55
S1105	839.08	74.02	765.06	75.42	763.66							76.67	762.41	76.51	762.57
S1106	839.72	74.73	764.99	76.15	763.57							77.37	762.35	77.22	762.50
S1107	812.08	47.00	765.08	48.36	763.72	48.56	763.52					49.41	762.67	49.22	762.86
S1108	782.74	17.82	764.92	19.05	763.69	19.32	763.42					19.98	762.76	19.80	762.94
S1109	856.58	86.07	770.51	87.58	769.00	87.71	768.87	88.45	768.13	89.30	767.28	89.84	766.74	89.77	766.81
S1110	813.12	44.12	769.00	45.94	767.18			46.42	766.70	46.76	766.36	47.12	766.00	46.96	766.16

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.	WATER DEPTH	WATER ELEV.
FEET MSL	3/14/89	3/14/89	10/25/89	10/25/89	12/13/89	12/13/89	6/15/90	6/15/90	10/22/90	10/22/90	12/15/91	12/15/91	4/7/92	4/7/92	4/7/92
S1111	848.82	78.33	770.49	79.27	769.55	79.47	769.35	79.70	769.12	79.79	769.03	79.99	768.83	80.19	768.63
S1112	838.29	64.67	773.62	65.12	773.17	65.53	772.76	65.78	772.51	65.95	772.34	66.21	772.08	66.18	772.11
S1113	821.56	46.94	774.62	47.44	774.12			47.59	773.97	47.65	773.91	47.82	773.74	47.73	773.83
S1114	821.37	46.76	774.61	47.27	774.10	47.23	774.14			47.54	773.83	47.67	793.70	47.56	773.81
S1115	863.37	89.83	773.54	90.55	772.82			91.58	771.79	92.17	771.20	92.56	770.81	92.59	770.78
S1116	862.31	88.40	773.91	89.53	772.78	89.93	772.38					91.57	770.74	91.56	770.75
S1117	864.40	90.89	773.51	92.11	772.29							84.72	779.68 #	94.65	769.75
S1118	874.99	98.79	776.20	99.77	775.22	100.00	774.99	100.60	774.39	100.92	774.07	101.17	773.82	101.34	773.65
S1119	879.69	101.90	777.79	102.87	776.82							104.21	775.48	104.36	775.33
S1120	879.76											105.61	774.15	105.76	774.00
S1121	815.43			39.69	775.74					40.12	775.31	40.25	775.18	40.20	775.23
S1122	907.16	127.51	779.65	128.39	778.77							130.04	777.12	130.18	777.08
S1123	868.79	85.68	783.11	86.89	781.90	87.33	781.46	88.33	780.46	89.00	779.79	89.73	779.06	89.63	779.16
S1124	879.83	100.85	778.98	101.94	777.89	102.08	777.75			103.00	776.83	103.36	776.47	103.44	776.39
S1125	895.74	115.61	780.13	116.88	778.86	117.03	778.71	117.85	777.89	122.88	772.86	118.78	776.96	118.77	776.97
S1126	876.95	88.27	788.68	89.75	787.20	90.00	786.95	91.27	785.68	91.50	785.45	91.90	785.05	91.82	785.13
S1127	880.35	66.20	814.15	67.83	812.52	68.91	811.44	54.20	826.15	61.08	819.27	55.99	824.36	50.21	830.14
S1128	879.31	54.98	824.33	57.29	822.02	58.26	821.05	45.23	834.08	50.74	828.57	48.44	830.87	41.75	837.56
S1129	913.12	87.94	825.18	90.05	823.07	90.79	822.33	86.72	826.40	81.48	831.64	80.99	832.13	76.34	836.78
S1130	941.18	106.30	834.88	105.84	835.34	109.17	832.01	104.55	836.63	109.91	831.27	107.13	834.05	105.00	836.18
S1131	942.17	116.40	825.77	114.55	827.62	116.13	826.04	107.55	834.62	109.38	832.79	108.86	833.31	101.47	840.70
S1132	915.41	135.28	780.13	136.21	779.20	136.62	778.79	137.28	778.13	137.52	777.89	137.98	777.43	138.01	777.40
S1133	828.29	63.19	765.10	64.61	763.68							66.38	761.91	66.18	762.11
S1134	921.81			142.78	779.03	142.83	778.98					143.90	777.91	143.99	777.82
S1135	925.99	146.34	779.65	147.58	778.41	147.62	778.37					148.73	777.26	148.78	777.21
S1144	863.20			89.86	773.34							92.36	770.84	92.38	770.82
S1145	878.38	104.44	773.94	105.00	773.38										
S1146	858.68	85.40	773.28	86.76	771.92										
S1147	817.14	51.79	765.35	53.16	763.98	53.25	763.89	53.90	763.24	54.43	762.71				
S1148	803.69	38.19	765.50	40.26	763.43	40.42	763.27								
S1149	807.64	41.40	766.24	43.34	764.30	43.48	764.16								
S1150	897.50	117.85	779.65	119.07	778.43	119.23	778.27								
S1151	893.43	112.80	780.63	113.80	779.63	114.32	779.11	114.95	778.48	114.96	778.47				
S1152A	813.58	48.34	765.24	50.42	763.16										
S1152B	813.15	47.90	765.25	50.03	763.12										
S1153	908.00	128.74	779.26	129.62	778.38	129.99	778.01								

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV.	3/14/89		10/25/89		12/13/89		6/15/90		10/22/90		12/15/91		4/7/92	
		FEET MSL	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH
NEW LANDFILL															
NLN-82-01A	890.67			114.72		775.95	114.97	775.70				115.70	774.97	115.75	774.92
NLN-82-01B	891.29			115.35		775.94	115.51	775.78				116.30	774.99	116.40	774.89
NLN-82-01C	890.52			114.61		775.91	114.81	775.71				115.55	774.97	116.62	773.90
NLN-82-02A	864.02			88.30		775.72	88.47	775.55				89.27	774.75	89.25	774.77
NLN-82-02B	863.84			88.02		775.82	88.24	775.60				88.99	774.85	89.00	774.84
NLN-82-02C	864.08			88.29		775.79	88.46	775.62				89.21	774.87	89.23	774.85
NLN-82-03A	883.95			108.20		775.75	108.48	775.47				110.24	773.71	109.30	774.65
NLN-82-03B	885.14			109.13		776.01	109.31	775.83				110.07	775.07	110.13	775.01
NLN-82-03C	884.75			109.47		775.28	109.68	775.07				110.41	774.34	110.50	774.15
NLN-83-04A	892.94			117.38		775.56	117.50	775.44				118.31	774.63	118.40	774.54
NLN-82-04B	893.57			118.06		775.51	118.21	775.36				118.98	774.59	118.98	774.59
NLN-82-04C	893.81			118.25		775.56	118.42	775.39				119.17	774.64	119.20	774.61
NLN-82-05A	899.90			124.42		775.48	124.56	775.34				125.28	774.62	125.30	774.60
NLN-82-05B	899.32			123.76		775.56	123.93	775.39				124.67	774.65	124.69	774.63
NLN-82-05C	898.20			122.75		775.45	122.89	775.31				123.67	774.53	123.65	774.55
OFF - POST SOUTH OF BAAP															
PBN-91-01C	830.04											87.05	742.99	87.30	742.74
PBN-91-02B	821.20											78.34	742.86	78.34	742.86
PBN-91-02C	821.92											78.98	742.94	79.00	742.92
PBN-91-03B	814.72											72.61	742.11	72.54	742.18
PBN-91-03C	814.37											72.19	742.18	72.12	742.25
PBM-90-01D	831.53									89.02	742.51	88.28	743.25	88.51	743.02
PBM-90-02D	821.32									79.16	742.16	78.54	742.78	78.52	742.80
PBM-90-03D	814.79									73.28	741.51	72.75	742.04	72.65	742.14
PBM-90-04B	830.00									92.19	737.81	91.20	738.80	91.40	738.60
PBM-90-04D	829.95									92.22	737.73	91.22	738.73	91.45	738.50
SWN-91-01B	833.25											78.48	754.77	78.36	754.89
SWN-91-01C	834.03											79.27	754.76	79.14	754.89
SWN-91-01D	833.57											78.81	754.76	78.68	754.89
SWN-91-02C	836.39											82.59	753.80	82.44	753.95
SWN-91-02D	836.61											82.85	753.76	82.70	753.91
SWN-91-01B	836.63											84.30	752.33	84.15	752.48
SWN-91-03C	836.73											84.36	752.37	84.22	752.51

TABLE G-1
GROUNDWATER ELEVATION DATA

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL DESIGNATION	RISER ELEV. FEET MSL	3/14/89		10/25/89		12/13/89		6/15/90		10/22/90		12/15/91		4/7/92	
		DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.	DEPTH	WATER ELEV.
SWN-91-03D	837.09											84.75	752.34	84.62	752.47
SWN-91-03E	837.38											85.08	752.30	84.96	752.42
SWN-91-04C	834.87											83.99	750.88	83.90	750.97
SWN-91-04D	835.28											84.33	750.95	84.21	751.07
SWN-91-05B	832.67											84.41	748.26	84.51	748.16
SWN-91-05C	832.86											84.68	748.18	84.72	748.14
SWN-91-05D	833.31											85.31	748.00	85.35	747.96
FUDS PIEZOMETERS/MONITORING WELLS															
91-38P	824.76											51.35	773.41	51.00	773.76
91-39P	839.82											66.08	773.74	65.86	773.96
91-40P	844.57											69.83	774.74	70.19	774.38
91-41P	805.27													29.00	776.27
91-42P	796.77											20.80	775.97	21.88	774.89
91-43P	803.38											27.88	775.50	28.52	774.86
91-44P	814.06											37.61	776.45	34.14	779.92
91-45P	789.29											12.77	776.52	14.17	775.12
91-46P	780.31											4.13	776.18	4.86	775.45
91-47P	813.85											37.61	776.24	37.66	776.19
91-48P	846.25											69.28	776.97	69.22	777.03
91-55P	845.12											47.46	797.66	47.38	797.74
91-56P	860.51											85.00	775.51	84.94	775.57
91-57P	844.90											66.70	778.20	65.90	779.00
91-58P	856.13											56.55	799.58	89.91	766.22
91-59P	837.34											75.84	761.50	76.25	761.09
MW-49	891.15													114.89	776.26
MW-50	891.23													114.66	776.57
MW-51	860.69													83.88	776.81
MW-52	830.41													56.51	773.90
MW-53	828.40													54.56	773.84
MW-54	816.20													42.21	773.99

Notes: # indicates questionable water level data.

Appendix G.2

Field Data Records - Round I and II

DATE | 24 SEP 90

LOCATION			
ACTIVITY	START	1430	- END 1645

SIGNATURE: R. David Linsmore

PAGE 1

PROJECT | BADGER - USATHAMA

JOB NUMBER	6298-12
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DATE 25 SEP 90

SAMPLE LOCATION ID PBM-9C-02D

LOCATION		
ACTIVITY	START 0745	END 1000

FIELD QC DATA: ☐ FIELD DUPLICATE COLLECTED DUP ID

WELL DEPTH	<u>207.3</u> FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND)	<u>2.2</u> FT	PROTECTIVE CASING/WELL DIFF.	<u>+0.24</u> FT
DEPTH TO WATER	<u>78.88</u> FT	HISTORICAL WELL DEPTH	<u>205</u> FT	WELL DIA.	<input checked="" type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH	WELL INTEGRITY:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
HEIGHT OF WATER COLUMN	<u>128</u> FT	<input type="checkbox"/> .16 GAL/FT (2 IN) <input checked="" type="checkbox"/> .65 GAL/FT (4 IN)= <input type="checkbox"/> 1.5 GAL/FT (6 IN) <input type="checkbox"/> GAL/FT (IN)	<u>108</u> GAL/VOL	WELL MATERIAL:	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: _____	
			<u>540</u> TOTAL GAL PURGED			AMBIENT AIR VOA	<u>0.0</u> PPM
						WELL MOUTH	<u>1.8</u> PPM

PURGE VOLUME	a <u>108</u> GAL	a <u>216</u> GAL	a <u>324</u> GAL	a <u>432</u> GAL	a <u>540</u> GAL
TEMP, DEG C	<u>10.4</u>	<u>10.3</u>	<u>10.3</u>	<u>10.3</u>	<u>10.3</u>
pH, UNITS	<u>7.8</u>	<u>7.2</u>	<u>7.4</u>	<u>7.2</u>	<u>7.5</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>427</u>	<u>464</u>	<u>456</u>	<u>452</u>	<u>453</u>

SAMPLE OBSERVATIONS

☒ CLEAR _____

☐ COLORED _____

☐ CLOUDY _____

☐ TURBID _____

☐ ODOR _____

☐ OTHER (SEE _____)

PURGING		SAMPLING		EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP		<u>Trge Standard</u>	<input type="checkbox"/> LIQUI-NOX	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSTIBLE PUMP		<u>no</u>	<input type="checkbox"/> DEIONIZED WATER	<input type="checkbox"/> FLOAT ACTIVATED
<input type="checkbox"/>	<input type="checkbox"/>	BAILER			<input checked="" type="checkbox"/> HNO3/D.I. WATER	<input type="checkbox"/> KECK INTERFACE PROBE
<input type="checkbox"/>	<input type="checkbox"/>	PVC/SILICON TUBING			<input type="checkbox"/> POTABLE WATER	<input type="checkbox"/> OTHER
<input type="checkbox"/>	<input type="checkbox"/>	TEFLON/SILICON TUBING			<input type="checkbox"/> TSP SOLUTION	
<input type="checkbox"/>	<input type="checkbox"/>	AIR LIFT			<input type="checkbox"/> NONE	
<input type="checkbox"/>	<input type="checkbox"/>	WATERRA				NUMBER OF FILTER PAPERS USED _____
<input type="checkbox"/>	<input type="checkbox"/>	IN-LINE FILTER				
<input type="checkbox"/>	<input type="checkbox"/>	PRESS/VAC FILTER				

[illegible]

1,1-dichloroethylene and 1,2-dichloroethylene.

Water purged from 5' below top of H_2O column

Depth of sand pack = 25'

MO 8/9/89 Pump rate = 5 gal./min.

Using formula for pump volume: $[(\text{Hgt. of H}_2\text{O column} \times .65)] + [(\text{Area of BU}) - (\text{Area of MU}) \times \text{Depth of Sandpack} \times .3 \text{ porosity} \times 7.48 \text{ gal / cu ft}]$

SIGNATURE: H. David Lindsay

PAGE 1 OF 1

PROJECT	BADGER - USATHAMA	JOB NUMBER	6298-12	DATE	25 SEP 90
AMPLE LOCATION	PBM-90-03D	LOCATION ACTIVITY	START 1100	END 1300	
FIELD QC DATA:	<input type="checkbox"/> FIELD DUPLICATE COLLECTED	DUP ID			

WELL DEPTH	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND)	<input type="checkbox"/> 1.6 FT	PROTECTIVE CASING/WELL DIFF.	+0.23 FT
WATER DEPTH TO WATER		HISTORICAL WELL DEPTH	200 FT	WELL DIA. <input checked="" type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH	WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER:	YES <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
HEIGHT OF WATER COLUMN	128 FT	X	<input type="checkbox"/> 16 GAL/FT (2 IN) <input checked="" type="checkbox"/> 65 GAL/FT (4 IN) = <input type="checkbox"/> 1.5 GAL/FT (6 IN) <input type="checkbox"/> GAL/FT (IN)	103 GAL/VOL	AMBIENT AIR VOA	0.0 PPM
				515 TOTAL GAL PURGED	WELL MOUTH	0.2 PPM

PURGE VOLUME	a <u>103</u> GAL	a <u>206</u> GAL	a <u>309</u> GAL	a <u>412</u> GAL	a <u>515</u> GAL
MP, DEG C	<u>11.1</u>	<u>11.4</u>	<u>12.0</u>	<u>11.6</u>	<u>12.0</u>
, UNITS	<u>7.8</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>451</u>	<u>461</u>	<u>462</u>	<u>446</u>	<u>463</u>

☒ CLEAR _____

☐ COLORED _____

☐ CLOUDY _____

☐ TURBID _____

☐ OOCR _____

☐ OTHER (SEE NOTES)

SAMPLING		EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
<input checked="" type="checkbox"/>	PERISTALTIC PUMP	<u>1992 Submers.</u>	<input type="checkbox"/> LIQUID-NOX	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP	<u>NO #</u>	<input type="checkbox"/> DEIONIZED WATER	<input type="checkbox"/> FLOAT ACTIVATED
<input type="checkbox"/>	BAILER		<input checked="" type="checkbox"/> HNO3/D.I. WATER	<input type="checkbox"/> KECK INTERFACE PROBE
<input type="checkbox"/>	PVC/SILICON TUBING		<input type="checkbox"/> POTABLE WATER	<input type="checkbox"/> OTHER
<input type="checkbox"/>	TEFLON/SILICON TUBING		<input type="checkbox"/> TSP SOLUTION	
<input type="checkbox"/>	AIR LIFT		<input type="checkbox"/> NONE	
<input type="checkbox"/>	WATERRA			
<input type="checkbox"/>	IN-LINE FILTER			
<input type="checkbox"/>	PRESS/VAC FILTER			
				NUMBER OF FILTER PAPERS USED _____

[illegible]

ylene. Using formula for purging volume

$$[(\text{Hgt. of H}_2\text{O column}) \times .65] + [(\text{Area of B.d.} \\ - (\text{Area of MW}) \times \text{Depth of Sand pack} \times \\ .3 \text{ porosity} \times 7.48 \text{ gal/ft}^3 = \text{Well volume}]$$

R David Lindsay

PAGE 1 CF ~~SECRET~~

DATE 25 SEP 00

LOCATION		
ACTIVITY	START 1600	END 1730

FIELD QC DATA: ☐ FIELD DUPLICATE COLLECTED DUP ID

PROTECTIVE
CASING/WELL DIFF. +0.25 FT

WELL MATERIAL: ☒ PVC ☐ SS

	YES	NO
WELL INTEGRITY:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PROT. CASING SECURE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CONCRETE COLLAR INTACT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WELL LOCKED	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OTHER:	<input type="checkbox"/>	<input type="checkbox"/>

98	GAL/VOL
490	TOTAL GAL PURGED

AMBIENT AIR VOA	0.0	PPM
WELL MOUTH	0.0	PPM

PURGE VOLUME	a <u>98</u> GAL	a <u>196</u> GAL	a <u>294</u> GAL	a <u>392</u> GAL	a <u>490</u> GAL
TEMP, DEG C	<u>12.0</u>	<u>11.8</u>	<u>11.4</u>	<u>11.6</u>	<u>11.4</u>
PH, UNITS	<u>9.0</u>	<u>8.4</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>439</u>	<u>442</u>	<u>436</u>	<u>436</u>	<u>440</u>

☒ CLEAR _____

☐ COLORED _____

☐ CLOUDY _____

☐ TURBID _____

☐ ODOR _____

☐ OTHER (SEE NOTES) _____

PUMP		SAMPLING		E	
✓	PERISTALTIC PUMP	✓	PERISTALTIC PUMP		
	SUBMERSIBLE PUMP		SUBMERSIBLE PUMP		
	BAILER		BAILER		
	PVC/SILICON TUBING		PVC/SILICON TUBING		
	TEFLON/SILICON TUBING		TEFLON/SILICON TUBING		
	AIR LIFT		AIR LIFT		
	WATERRA		WATERRA		
	IN-LINE FILTER		IN-LINE FILTER		
	PRESS/VAC FILTER		PRESS/VAC FILTER		

EQUIPMENT ID
Ingen/Std Standard
NO #

DECON FLUIDS USED
LIQUI-NOX
DEIONIZED WATER
HNO3/D.I. WATER
POTABLE WATER
TSP SOLUTION
NONE

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ KECK INTERFACE PROBE
☐ OTHER

NUMBER OF FILTER PAPERS USED 0

[illegible]

NOTES: VOA's to be analyzed are chloroform, carbon tetrachloride, trichloethylene,

,1-dichloroethylene and 1,2-dichloroethylene.

Depth of sand pack = 14'

Pump rate = 5 gal/min

Lowered pump to 5' below top of H_2O column
8/9/27 then 11' below due to slower recharge

Using formula for purge volumes $[(\text{Height of } H_2O \text{ column}) \times 65] +$
 $[(\text{Area of } 8.4) - (\text{Area of } m.w.) \times \text{Depth of Sand pack} \times .3 \text{ porosity}]$
 $\times 7.48 \text{ gal/ft}^3 = 1 \text{ well volume}$

SIGNATURE: R. David Linnore

PAGE

DATE 26 SEP 90

LOCATION
ACTIVITY START 0830 END 0045

SIGNATURE:

PAGE 1 OF 1

PROJECT BADGER - USATHAMA

JOB NUMBER	6293-12
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DATE 26 SEP 90

AMPLE LOCATION PBN-89-04C

LOCATION		
ACTIVITY	START 1035	END 1200

FIELD QC DATA: ☐ FIELD DUPLICATE COLLECTED DUP ID

WELL DEPTH	182.2 FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND)	2.7 FT	PROTECTIVE CASING/WELL DIFF.	-0.78 FT
WELL DIA.					<input type="checkbox"/> 2 INCH <input checked="" type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH	WELL INTEGRITY:	YES NO
WELL DEPTH TO WATER	93.48 FT	HISTORICAL WELL DEPTH	185 FT	WELL MATERIAL:		PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER:	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
EIGHT OF WATER COLUMN	89 FT	<input type="checkbox"/> 0.16 GAL/FT (2 IN) <input checked="" type="checkbox"/> 0.65 GAL/FT (4 IN) <input type="checkbox"/> 1.5 GAL/FT (6 IN) <input type="checkbox"/> GAL/FT (IN)	84 GAL/VOL 420 TOTAL GAL PURGED	AMBIENT AIR VOA	0.0 PPM	WELL MOUTH	0.0 PPM

PURGE VOLUME	a <u>84</u> GAL	a <u>168</u> GAL	a <u>252</u> GAL	a <u>336</u> GAL	a <u>420</u> GAL
EMP, DEG C	<u>14.3</u>	<u>15.3</u>	<u>14.9</u>	<u>14.9</u>	<u>14.1</u>
4, UNITS	<u>7.4</u>	<u>7.5</u>	<u>7.4</u>	<u>7.4</u>	<u>7.4</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>593</u>	<u>550</u>	<u>548</u>	<u>778</u>	<u>772</u>

☒ CLEAR

☐ COLORED _____

☐ CLOUDY _____

☐ TURBID _____

☐ ODOR _____

☐ OTHER (SEE NOTES)

TESTING	SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
	PERISTALTIC PUMP		<input type="checkbox"/> LIQUID-NOX	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
	SUBMERSIBLE PUMP	<u>Trge. Standard</u>	<input type="checkbox"/> DEIONIZED WATER	<input type="checkbox"/> FLOAT ACTIVATED
	BAILER	<u>NG #</u>	<input type="checkbox"/> HNO3/D.I. WATER	<input type="checkbox"/> KECK INTERFACE PROBE
	PVC/SILICON TUBING		<input checked="" type="checkbox"/> POTABLE WATER	<input type="checkbox"/> OTHER
	TEFLON/SILICON TUBING		<input type="checkbox"/> TSP SOLUTION	
	AIR LIFT		<input type="checkbox"/> NONE	
	WATERRA			NUMBER OF FILTER PAPERS USED _____
	IN-LINE FILTER			
	PRESS/VAC FILTER			

[illegible]

1-dichloroethylene and 1,2-dichloroethylene.

- Purge water contained & emptied into Badger Sewer System.
- Sand pack = 25'
- No cap on well

8/9/87 - Pump rate = 5 gal./min.

SIGNATURE: _____

Using formula for pore volume:

$$[\text{Hgt. of } H_2O \text{ column} \times .65] + [\text{Area of B.H.} - \text{Area of a.w.}] \times \text{Depth of Sand Pack} \times .3 \text{ porosity} \times 7.48 \text{ gal/Ft}^3 = 1 \text{ well volume}$$

SIGNATURE:

PAGE 1

PROJECT BADGER - USATHAMA

JOB NUMBER	6298-12
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DATE 26 SEP 90

SAMPLE LOCATION ID: SPN-89-03B

LOCATION		
ACTIVITY	START 1700	END 1330

FIELD QC DATA: ☐ FIELD DUPLICATE COLLECTED DUP ID

WELL DEPTH	96.6 FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND) 3.0 FT	PROTECTIVE CASING/WELL DIFF. -0.12 FT
DEPTH TO WATER	55.40 FT	HISTORICAL WELL DEPTH	97 FT	WELL DIA. <input type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH	WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER:
				WELL MATERIAL: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
HEIGHT OF WATER COLUMN	41 FT	<input type="checkbox"/> .16 GAL/FT (2 IN) <input checked="" type="checkbox"/> .65 GAL/FT (4 IN)= <input type="checkbox"/> 1.5 GAL/FT (6 IN) <input type="checkbox"/> GAL/FT (IN)	38 GAL/VOL 190 TOTAL GAL PURGED	AMBIENT AIR VOA 0.0 PPM WELL MOUTH 0.4 PPM	

PURGE VOLUME	a <u>38</u> GAL	a <u>76</u> GAL	a <u>114</u> GAL	a <u>152</u> GAL	a <u>190</u> GAL
TEMP, DEG C	<u>15.3</u>	<u>15.9</u>	<u>14.2</u>	<u>14.6</u>	<u>11.7</u>
pH, UNITS	<u>7.7</u>	<u>7.6</u>	<u>7.5</u>	<u>7.6</u>	<u>7.5</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>668</u>	<u>662</u>	<u>662</u>	<u>665</u>	<u>657</u>

SAMPLE C55ERVAT!ONS
☒ CLEAR

☐ COLORED _____
☐ CLOUDY _____
☐ TURBID _____
☐ CDOR _____
☐ OTHER (SEE NOTES) _____

PURGING		SAMPLING		EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP		<u>Large Standard</u> <u>no #</u>	<input type="checkbox"/> LIQUI-NOX	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP			<input type="checkbox"/> DEIONIZED WATER	<input type="checkbox"/> FLOAT ACTIVATED
<input type="checkbox"/>	<input type="checkbox"/>	BAILER		<input type="checkbox"/> HNO3/D.I. WATER	<input type="checkbox"/> KECK INTERFACE PROBE	
<input type="checkbox"/>	<input type="checkbox"/>	PVC/SILICON TUBING		<input checked="" type="checkbox"/> POTABLE WATER	<input type="checkbox"/> OTHER	
<input type="checkbox"/>	<input type="checkbox"/>	TEFLON/SILICON TUBING		<input type="checkbox"/> TSP SOLUTION		
<input type="checkbox"/>	<input type="checkbox"/>	AIR LIFT		<input type="checkbox"/> NONE		
<input type="checkbox"/>	<input type="checkbox"/>	WATERRA				
<input type="checkbox"/>	<input type="checkbox"/>	IN-LINE FILTER				
<input type="checkbox"/>	<input type="checkbox"/>	PRESS/VAC FILTER				
					NUMBER OF FILTER PAPERS USED _____	

[illegible]

1,1-dichloroethylene and 1,2-dichloroethylene.

- Depth of sandpack = 11'

- Purge water contained & emptied into Bodger sewer system

- Pumping rate = 5.5 gal/min

MD 8/9/89

Using formula for purge volume

$$[\text{Hgt. of H}_2\text{O Column} = .65] + [\text{Area of M.W.} \times \text{Depth of Sand}]$$

$$.3 \text{ porosity} \times 7 + 5 \text{ gal/ft}^3 = 1$$

SIGNATURE: *K. David Dismore*

PAGE 1 OF 1

DATE 26 SEP 90

LOCATION			
ACTIVITY	START	1400	END 1500

FIELD CC DATA: ☐ FIELD DUPLICATE COLLECTED DUP ID _____

PROTECTIVE
CASING/WELL DIFF. - 04.5 FT

WELL DIA. ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH

WELL MATERIAL: ☒ PVC ☐ SS

	YES	NO
WELL INTEGRITY:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PROT. CASING SECURE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CONCRETE COLLAR INTACT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WELL LOCKED	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OTHER:	<input type="checkbox"/>	<input type="checkbox"/>

60	GAL/VOL
300	TOTAL GAL PURGED

AMBIENT AIR VOA	0.0	PPM
WELL MOUTH	0.0	PPM

PURGE VOLUME	2 <u>60</u> GAL	2 <u>120</u> GAL	2 <u>180</u> GAL	2 <u>240</u> GAL	2 <u>300</u> GAL
EMP, DEG C	<u>11.8</u>	<u>10.8</u>	<u>10.3</u>	<u>10.3</u>	<u>10.3</u>
4, UNITS	<u>7.7</u>	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>7100 685</u>	<u>691</u>	<u>682</u>	<u>683</u>	<u>680</u>

☒ CLEAR

☐ COLORED _____

☐ CLOUDY _____

☐ TURBID _____

☐ ODCR _____

☐ OTHER (SEE NOTES)

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
TEFLON/SILICON TUBING
AIR LIFT
WATERRA
IN-LINE FILTER
PRESS/VAC FILTER

Large standard
no 4

LIQUI-NOX
DEIONIZED WATER
HNO3/D.I. WATER
POTABLE WATER
TSP SOLUTION
NONE

2 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 KECK INTERFACE PROBE
 OTHER

NUMBER OF FILTER PAPERS USED

[illegible]

8/9/83

Formula for well volume

$$[(\text{Hght. of H}_2\text{O Column} \times .65) \times (\text{Area of B.H.} - \text{Area of mu}) \times \text{Depth of sand pack}] \times .3 = 7.45 \text{ gal/ft}^3$$

SIGNATURE: R. L. C. C. C.

E.C. JORDAN CO.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NO.

PBM9001D

WEATHER

Sun 60°

PROJECT USATHAMA-BAAP

PROGRAM

006

SITE TYPE

Well

FILE NAME

CGW

JOB NUMBER

6298-12

SAMPLING DATE

22 OCT 90

SITE ID

PBM-90-01D

LOCATION

ACTIVITY

START

1510

END

1645

WATER LEVEL / WELL DATA

WELL DEPTH

212.8 FT

☒ MEASURED
☐ HISTORICAL☐ TOP OF WELL
☐ TOP OF CASINGPROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.4 FT

PROTECTIVE
CASING/WELL DIFF.

+0.23 FT

DEPTH TO
WATER

89.02 FT

DEPTH OF
SANDPACK

15 FT

WELL MATERIAL:

☒ PVC
☐ SSWELL DIA.
☐ 2 INCH
☒ 4 INCH
☐ 6 INCHWELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:YES
NOHEIGHT OF
WATER COLUMN

123 FT

91 GAL/VOL

455 TOTAL GAL PURGED

PURGE WATER
CONTAINED?☒ YES
☐ NO

PURGE VOL. CALCULATION:

$$[(\text{HGT. OF WATER COL.}) \times .65] + [(\text{AREA OF 3.14} \times \text{AREA OF M.W.}) \times \text{DEPTH OF SANDPACK} \times .3 \text{ PCF}]$$

$$\times 7.48 \text{ GAL/CU FT} = 1 \text{ VOLUME}$$

FIELD ANALYSIS DATA

AMBIENT AIR VOA

0.5 PPM

WELL MOUTH

0.9 PPM

PURGE VOLUME

a 91 GAL

a 182 AL

a 273 GAL

a 364 GAL

a 455 GAL

TEMP, DEG C

11.3

10.5

10.6

10.3

10.3

pH, UNITS

6.6

7.6

7.6

7.7

7.7

SPECIFIC CONDUCTIVITY umhos/cm

589

549

536

527

522

SAMPLE OBSERVATIONS

☒ CLEAR☐ COLORED☐ CLOUDY☐ TURBID☐ ODOR☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ TEFLON/SILICON TUBING
☐ AIR LIFT
☐ WATERRA
☐ IN-LINE FILTER
☐ PRESS/VAC FILTER

EQUIPMENT ID

Type Standard
not

DECON FLUIDS USED

☒ LIQUI-NOX
☐ DEIONIZED WATER
☐ HNO3/D.I. WATER
☐ POTABLE WATER
☐ TSP SOLUTION
☐ NONE

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ KECK INTERFACE PROBE
☐ OTHER

NUMBER OF FILTER PAPERS USED

ANALYTICAL PARAMETERS

☒ * VOAMETHOD
NUMBER
N-8FILTERED
NOPRESERVATION
METHOD
4 DEG CVOLUME
REQUIRED
2-40 MLSAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

100 / 101 / / /

NOTES PBM-90-01D

* VOA's to be analyzed are chloroform, carbon tetrachloride, trichloroethylene, 1,1-dichloroethylene and 1,2-dichloroethylene.

Purged 5 gals. Vols. then sampled.

Pump rate = 5 gals./min.

GROUNDWATER ELEVATION:

SIGNATURE

R. David Dinsmore

E.C. JORDAN CO.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NO.

PBM9002D

WEATHER

Sunny 40°

PROJECT USATHAMA-BAAP

PROGRAM

306

SITE TYPE

Well

FILE NAME

CGW

JOB NUMBER

6298-12

SAMPLING DATE

23 OCT 90

SITE ID

PBM-90-02D

LOCATION

ACTIVITY

START 0730

END 1000

WATER LEVEL / WELL DATA

WELL DEPTH

207.0 FT

☐MEASURED
HISTORICAL☐TOP OF WELL
TOP OF CASINGPROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.3 FT

PROTECTIVE
CASING/WELL DIFF.

+0.25 FT

DEPTH TO
WATER

79.16 FT

DEPTH OF
SANDPACK

25 FT

WELL DIA.

☐ 2 INCH☒ 4 INCH☐ 6 INCH

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER:

YES

NO

☒☐☐

HEIGHT OF

WATER COLUMN

128 FT

108 GAL/VOL

540 TOTAL GAL PURGED

PURGE WATER

CONTAINED?

YES

NO

PURGE VOL. CALCULATION:

$$[(\text{HGT. OF WATER COL.}) \times .65] + [(\text{AREA OF B.H.} - \text{AREA OF M.W.}) \times \text{DEPTH OF SANDPACK} \times .3 \text{ PCR.} \times 7.48 \text{ GAL/CU FT}] = 1 \text{ VOLUME}$$

FIELD ANALYSIS DATA

AMBIENT AIR VOA

0.0 PPM

WELL MOUTH

0.0 PPM

PURGE VOLUME

a 108 GAL

a 216 AL

a 324 GAL

a 432 GAL

a 540 GAL

TEMP, DEG C

9.4

9.4

9.6

9.6

9.6

PH, UNITS

7.0

7.7

7.7

7.6

7.6

SPECIFIC CONDUCTIVITY umhos/cm

416

442

400

397

398

SAMPLE OBSERVATIONS

☒ CLEAR☐ COLORED☐ CLOUDY☐ TURBID☐ ODOR☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒☒☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

TEFLON/SILICON TUBING

AIR LIFT

WATERRA

IN-LINE FILTER

PRESS/VAC FILTER

EQUIPMENT ID

Large Standard

No #

DECON FLUIDS USED

LIQUI-NOX

DEIONIZED WATER

HNO3/D.I. WATER

POTABLE WATER

TSP SOLUTION

NONE

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE☐ FLOAT ACTIVATED☐ KECK INTERFACE PROBE☐ OTHER

NUMBER OF FILTER PAPERS USED

ANALYTICAL PARAMETERS

* VOA

METHOD
NUMBER
N-8FILTERED
NOPRESERVATION
METHOD
4 DEG CVOLUME
REQUIRED
2-40 MLSAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

102 / 103 /

NOTES

* VOA's to be analyzed are chloroform, carbon tetrachloride, trichloroethylene, 1,1-dichloroethylene and 1,2-dichloroethylene.

Purged 5 vols then sampled.

Pump rate = 5 gals./min.

GROUNDWATER ELEVATION:

SIGNATURE

R. David D. Dumas

R. David Dinsmore

R. David Curismore

E.C. JORDAN CO.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NO.

PBN 8904C

WEATHER

Sun 140°

PROJECT USATHAMA-BAAP

PROGRAM 306

SITE TYPE

Well

FILE NAME

CG

JOB NUMBER

6298-12

SAMPLING DATE

24 OCT 90

SITE ID PBN-89-04C

LOCATION

ACTIVITY

START 1030

END 1200

WATER LEVEL / WELL DATA

WELL DEPTH 181.7 FT

☒ MEASURED
☐ HISTORICAL☒ TOP OF WELL
☐ TOP OF CASINGPROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.7 FT

PROTECTIVE
CASING/WELL DIFF.

-0.75 FT

DEPTH TO
WATER 93.56 FTDEPTH OF
SANDPACK 25 FTWELL MATERIAL:
☒ PVC
☐ SSWELL DIA.
☐ 2 INCH
☒ 4 INCH
☐ 6 INCHWELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:YES NO
☒ ☐
☒ ☐
☒ ☐
☒ ☐HEIGHT OF
WATER COLUMN 88 FT84 GAL/VOL
420 TOTAL GAL PURGEDPURGE WATER
CONTAINED?
☒ YES
☐ NOPURGE VOL. CALCULATION:
[(HGT. OF WATER COL.) X .65] ÷ [(AREA OF B.H.
- AREA OF M.W.) X DEPTH OF SANDPACK X .3 PCR.
X 7.48 GAL/CU FT] = 1 VOLUME

FIELD ANALYSIS DATA

AMBIENT AIR VOA 0.0 PPM

WELL MOUTH 0.0 PPM

PURGE VOLUME	a 84 GAL	a 168 AL	a 252 GAL	a 336 GAL	a 420 GAL
TEMP, DEG C	9.5	9.2	9.3	9.2	9.2
pH, UNITS	7.6	7.6	7.5	7.6	7.5
SPECIFIC CONDUCTIVITY umhos/cm	578	574	572	571	573

SAMPLE OBSERVATIONS

- ☒ CLEAR
- ☐ COLORED
- ☐ CLOUDY
- ☐ TURBID
- ☐ ODOR
- ☐ OTHER (SEE)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

- ☒ PERISTALTIC PUMP
- ☒ SUBMERSIBLE PUMP
- ☐ BAILER
- ☐ PVC/SILICON TUBING
- ☐ TEFLON/SILICON TUBING
- ☐ AIR LIFT
- ☐ WATERRA
- ☐ IN-LINE FILTER
- ☐ PRESS/VAC FILTER

EQUIPMENT ID

inge standard
no #

DF

- ☐ DETECTED WATER
- ☐ HNO3/D.I. WATER
- ☐ POTABLE WATER
- ☐ TSP SOLUTION
- ☐ NONE

- ☒ WATER LEVEL EQUIP. USED
- ☐ ELECTRIC COND. PROBE
- ☐ FLOAT ACTIVATED
- ☐ KECK INTERFACE PROBE
- ☐ OTHER

NUMBER OF FILTER PAPERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> * VOA N-8	NO	4 DEG C	2-40 ML	<input checked="" type="checkbox"/>	112 / 113 / /

NOTES

- * VOA's to be analyzed are chloroform, carbon tetrachloride, trichloroethylene, 1,1-dichloroethylene and 1,2-dichloroethylene.
- No capon well.
- Purge water contained and emptied into BAAP sewer system.
- Pump rate = 5 gal./min.

GROUNDWATER ELEVATION:

SIGNATURE

R. David Densmore

E.C. JORDAN CO.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NO.

SPN8903B

WEATHER

Sunny/50°

PROJECT USATHAMA-BAAP

PROGRAM 326

SITE TYPE

Well

FILE NAME

CGW

JOB NUMBER

6298-12

SAMPLING DATE

24 OCT 90

SITE ID SPN-89-03B

LOCATION
ACTIVITY

START 1330

END 1430

WATER LEVEL / WELL DATA

WELL DEPTH 95.6 FT ☒ MEASURED ☐ HISTORICAL ☐ TOP OF WELL ☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 3.0 FT

PROTECTIVE CASING/WELL DIFF. -0.12 FT

DEPTH TO WATER 55.48 FT DEPTH OF SANDPACK 11 FT

WELL DIA. ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH

WELL MATERIAL: ☒ PVC ☐ SS

WELL INTEGRITY: ☐ YES ☒ NO

PROT. CASING SECURE ☒ YES ☐ NO

CONCRETE COLLAR INTACT ☒ YES ☐ NO

WELL LOCKED ☒ YES ☐ NO

OTHER: _____

HEIGHT OF WATER COLUMN 40 FT

38 GAL/VOL

190 TOTAL GAL PURGED

PURGE WATER CONTAINED? ☒ YES ☐ NO

PURGE VOL. CALCULATION:

$$[(\text{HGT. OF WATER COL.}) \times .65] + [(\text{AREA OF B.H.} - \text{AREA OF M.W.}) \times \text{DEPTH OF SANDPACK} \times .3 \text{ POR.} \times 7.48 \text{ GAL/CU FT}] = 1 \text{ VOLUME}$$

FIELD ANALYSIS DATA

AMBIENT AIR VOA 0.0 PPM

WELL MOUTH 0.0 PPM

PURGE VOLUME	2 38 GAL	2 76 AL	2 114 GAL	2 152 GAL	2 190 GAL
TEMP, DEG C	8.8	8.9	8.8	8.9	8.8
pH, UNITS	7.9	7.7	7.7	7.7	7.7
SPECIFIC CONDUCTIVITY umhos/cm	521	518	517	517	515

SAMPLE OBSERVATIONS

- ☒ CLEAR
- ☐ COLORED _____
- ☐ CLOUDY _____
- ☐ TURBID _____
- ☐ OOR _____
- ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒

SUBMERSIBLE PUMP ☒

BAILER ☒

PVC/SILICON TUBING ☒

TEFLON/SILICON TUBING ☒

AIR LIFT ☒

WATERRA ☒

IN-LINE FILTER ☒

PRESS/VAC FILTER ☒

EQUIPMENT ID Inge Standard no #

DECON FLUIDS USED ☒ LIQUI-NOX ☒ DEIONIZED WATER ☒ HNO3/D.I. WATER ☒ POTABLE WATER ☒ TSP SOLUTION ☒ NONE

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☒ FLOAT ACTIVATED ☒ KECK INTERFACE PROBE ☒ OTHER

NUMBER OF FILTER PAPERS USED _____

ANALYTICAL PARAMETERS

☒ * VOA

METHOD NUMBER N-8

FILTERED NO

PRESERVATION METHOD 4 DEG C

VOLUME REQUIRED 2-40 ML

SAMPLE COLLECTED ☒

SAMPLE BOTTLE ID NUMBERS 114 / 115 / /

NOTES

- * VOA's to be analyzed are chloroform, carbon tetrachloride, trichloroethylene, 1,1-dichloroethylene and 1,2-dichloroethylene.
- No capon well.
- Purge water contained and emptied into BAAP sewer system.
- Pump rate 6 gals./min.

GROUNDWATER ELEVATION: _____

SIGNATURE

R. David Dunsmore

SIGNATURE R. David Pinmore

Appendix G.3
Field Data Records - Round One

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

BGM 91-01

PAGE ____ OF ____

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID BGM-91-01

JOB NUMBER

6853-04

SAMPLING DATE

12-6-91

LOCATION

ACTIVITY START 1315 END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

CLEAR 22°

WATER LEVEL / WELL DATA

WELL DEPTH 73 FT

☒ MEASURED
☐ HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.40 FT

PROTECTIVE
CASING/WELL DIFF.

-0.14 FT

WATER DEPTH 61.75 FT

WELL
DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION

59.49

HEIGHT OF
WATER COLUMN 11.25 FT X

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

25 GAL/VOL

126 TOTAL GAL PURGED

126

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

25 GAL

50 GAL

75 GAL

100 GAL

126 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.7

8.9

8.7

8.7

8.7

8.24

8.25

8.23

8.22

8.24

531

328

530

384

579

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEG #
2" 4" #

REC'D FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2				
CA SS16	YES	HNO3 TO PH<2			2117	022260.C
NA SS16	YES	HNO3 TO PH<2				
CD SS16	YES	HNO3 TO PH<2				
CR SS16	YES	HNO3 TO PH<2				
HG SB03	YES	HNO3 TO PH<2				
PB SD24	YES	HNO3 TO PH<2				
NI SS16	YES	HNO3 TO PH<2				
BA SS16	YES	HNO3 TO PH<2				
HARD USEPA 130.2	YES	HNO3 TO PH<2			2117	022260.C
NIT TF10	YES	H2SO4 TO PH<2	500 ML POLY		2118	042280.C
CL TT08	YES	4 DEG C	500 ML POLY		2119	
SO4 TT08	YES	4 DEG C	500 ML POLY		2120	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO PH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO PH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			2121	021230.C
BN/A UM16	NO	4 DEG C (2) 1 L AG			2124	022280.C
HC 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO PH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

- volumes calculated from development

SIGNATURE: *Laura Cate PR*

RECEIVED BY: *Nancy E. Kora*

4771
elev. = 30.1

riser
elev. = 803.56

GW
elev. = 733.15

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

BGM9103

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID BGM-91-03

JOB NUMBER

6853-04

SAMPLING DATE

1279
12-6-91 (m)

LOCATION
ACTIVITY

START ~~1530~~ 0900 END ~~1415~~ 0945

PROGRAM

C

FILE NAME

CGW

WEATHER

SUNNY 40°

WATER LEVEL / WELL DATA

WELL DEPTH

101.77 FT

☒ MEASURED
☐ HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

22 FT

PROTECTIVE
CASING/WELL DIFF.

- 1.14 FT

WATER DEPTH

50.41 FT

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

78.35

HEIGHT OF
WATER COLUMN

21.36 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

31 GAL/VOL

155

TOTAL GAL PURGED

155

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1.1 PPM

WELL MOUTH 1.0 PPM

PURGE DATA

PURGE VOLUME

31 GAL

6.2 GAL

7.5 GAL

12.4 GAL

15.5 GAL

TEMP, DEG C

10.5

10.3

10.2

10.4

10.4

PH, UNITS

8.33

8.30

8.32

8.30

8.30

SPECIFIC CONDUCTIVITY umhos/cm

616

611

615

605

605

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

REFCON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS 1st #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			2135 / 022501C
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			2135 / 022501C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2136 / 022501C
CL TT08	YES	4 DEG C	500 ML POLY		2137 / 022501C
SO4 TT08	YES	4 DEG C	500 ML POLY		2138 / 022501C
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			2139 / 2140 / 2141 / 0212301C
BN/A UM16	NO	4 DEG C (2) 1 L AG			2142 / 2143 / 022501C
NG 99	NO	4 DEG C 1 L AG			
NAM UN06	NO	4 DEG C 1 L AG			
DNT UN26	NO	4 DEG C 1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, NG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-volumes calculated from development

SIGNATURE: Cite RR

RECEIVED BY: Nancy E. Rota

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

BPUW#2

SITE ID BPUW#2

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

12/3/91

LOCATION ACTIVITY START 1615 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 20° S

WATER LEVEL / WELL DATA

WELL DEPTH

FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

FT

PROTECTIVE
CASING/WELL DIES

FT

WATER DEPTH

FT

HEIGHT OF
WATER COLUMN

FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (1 IN)

GAL/VOL

TOTAL GAL PURGED

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A

PURGE DATA

PURGE VOLUME

15 gpm

2.125 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

Purged for 15 min.

10.6
4.6
4.09
4.68

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDEFS#

2" 4" #

RECON FLUIDS USED

POTABLE WATER

LTQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	S803	YES	HNO3 TO pH<2			
PB	S024	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAH	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,S024,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,S024,S803,99 (TL:GFAA, K/NA:ICP)

- let H2O purge for 15 minutes and sample
- No samples were filtered

SIGNATURE: Trace Vought

RECEIVED BY: Nancy E. J. [Signature]

357.
346.1
342.0

MSR = 343.29
222 = 343.29

GW
222 = 765.27

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN9106C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-91-06C

JOB NUMBER

6853-04

SAMPLING DATE 12.6.91

LOCATION ACTIVITY START 0800 END 1000

PROGRAM

C

FILE NAME CGW

WEATHER Cloudy 25°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.48 FT

PROTECTIVE
CASING/WELL DIFF.

-0.23 FT

WELL DEPTH 203.5 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 83.02 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION

80.77

HEIGHT OF
WATER COLUMN 124.48 FT X

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

101 GAL/VOL

508 TOTAL GAL PURGED

508

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

2 101 GAL

2 202 GAL

2 303 GAL

2 404 GAL

2 508 GAL

TEMP, DEG C

9.8

9.3

9.6

9.5

10.1

PH, UNITS

8.13

8.08

8.07

8.07

8.04

SPECIFIC CONDUCTIVITY umhos/cm

707

715

725

700

706

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC CONO. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	SS lot #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	S803	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A	UM16	NO	4 DEG C (2) 1 L AG				
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, S803, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, S803, 99 (TL:GFAA, K/NA:ICP)

- volumes based on well development

SIGNATURE: *Laura Cate* RR

RECEIVED BY: *Nancy E. Rofa*

2nd elev = 815.8

1st elev = 847.50

EW = 765.29

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN9106D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-91-06D

JOB NUMBER

6853-04

SAMPLING DATE

12-6-91

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 0800 END 1030

WEATHER

CLOUDY 25°

WATER LEVEL / WELL DATA

WELL DEPTH 254 FT

MEASURED

☒

TOP OF WELL

PROTECTIVE

CASING STICK-UP (FROM GROUND)

2.5 FT

PROTECTIVE CASING/WELL DIFF.

-0.20 FT

WATER DEPTH 82.21 FT

HISTORICAL

☒

WELL DIAMETER

2 INCH

GROUNDWATER ELEVATION

79.91

HEIGHT OF WATER COLUMN 171.79 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)

138 GAL/VOL

691 TOTAL GAL PURGED

(691)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

9:23 9:51 10:49 10:47 11:25
@ 138 GAL @ 276 GAL @ 414 GAL @ 551 GAL @ 691 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.3 9.4 9.8 9.4 9.8
8.50 8.22 8.21 8.17 8.14
695 702 686 704 701

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒

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2171 = 856.2 7580 = 854.42

GW = 764.07

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID PBN-91-12C

JOB NUMBER 6853-04

SAMPLING DATE 12.4.91

LOCATION ACTIVITY START 13301405 END 1530

PROGRAM C

FILE NAME CGW

WEATHER Sunny 15°F

WATER LEVEL / WELL DATA

WELL DEPTH 186 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.55 FT

PROTECTIVE
CASING/WELL DIFF. -0.07 FT

WATER DEPTH 90.35 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

94 GAL/VOL

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION (BGS) 87.87

HEIGHT OF
WATER COLUMN 95.65 FT

468 TOTAL GAL PURGED (462)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

14:24 14:43 15:02 15:21 15:25 40
239 GAL 186 GAL 245 GAL 332 GAL 468 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

7.8 7.3 7.5 7.40 7.1
7.16 7.84 7.78 7.80 7.89
638 649 647 623 638

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
1/2" 1/4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METAL (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- volumes based on well volumes calculated for development
- No Bow-tape sticks to side of well

SIGNATURE: Laura E. Carter

RECEIVED BY: Nancy E. Koka

2nd. elev. = 851.2

riser elev. = 855.29

GW elev. = 764.02

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN9112D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-91112D

JOB NUMBER

6853-04

SAMPLING DATE

12/4/91

LOCATION

ACTIVITY START 133055 END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 15°F

WATER LEVEL / WELL DATA

WELL DEPTH 233 FT

MEASURED

☒

TOP OF WELL

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.50 FT

PROTECTIVE CASING/WELL DIFF.

- .19 FT

WATER DEPTH 89.27 FT

HISTORICAL

☐

WELL DIAMETER

2 INCH

GROUNDWATER ELEVATION

86.76

HEIGHT OF WATER COLUMN 143.73 FT

.16 GAL/FT (2 IN)

☐

.65 GAL/FT (4 IN)

125 GAL/VOL

627 TOTAL GAL PURGED

(627)

WATER COLUMN

1.5 GAL/FT (6 IN)

☐

1 GAL/FT (1 IN)

WELL INTEGRITY:

PROT. CASING SECURE

YES

NO

N/A

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

OTHER: CAP

PURGE DATA

PURGE VOLUME

14:20

14:45

15:10

15:35

16:00

TEMP, DEG C

7.70

8.5

7.6

8.1

7.4

7.6

PH, UNITS

7.850

7.77

7.85

7.87

7.84

7.87

SPECIFIC CONDUCTIVITY umhos/cm

660

663

644

646

638

660

SAMPLE OBSERVATIONS

☒

CLEAR

☐

CLOUDY

☐

COLOR

☐

TURBID

☐

ODOR

☐

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

POTABLE WATER

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

SUBMERSIBLE PUMP

GRUNDEDS#

LIQUINOX

FLOAT ACTIVATED

BAILER

2" 4" #

STEAM CLEANING

PRESSURE TRANSDUCER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

HG

SB03

YES

HNO3 TO pH<2

1 L POLY

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

HARD

USEPA 130.2

YES

HNO3 TO pH<2

1 L POLY

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

500 ML POLY

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- Volumes based on well volumes calculated for well development.

- No BOW - tape sticks to side of well

SIGNATURE:

Laura E. Cate

RECEIVED BY:

Nancy E. R.

atd
flow = 800

user elev. = 572.33

GW elev. = 768.24

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8901B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-01B

JOB NUMBER

6853-04

SAMPLING DATE 11/10/91

LOCATION ACTIVITY START 1200 END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

overcast, 10-20°F

WATER LEVEL / WELL DATA

WELL DEPTH 1600 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.50 FT

PROTECTIVE CASING/WELL DIFF.

-1.16 FT

WATER DEPTH 104.09 FT

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

101.75

HEIGHT OF WATER COLUMN 58 FT
X ☒ 1.16 GAL/FT (2 IN)
X ☒ 1.65 GAL/FT (4 IN)
X ☒ 1.5 GAL/FT (6 IN)
X ☐ GAL/FT (IN)

49 GAL/VOL

245

TOTAL GAL PURGED

245

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
YES ☒ NO ☐

WELL MATERIAL
PVC ☒ SS ☐

AMBIENT AIR 1.5 PPM

WELL MOUTH 1.5 PPM

PURGE DATA

PURGE VOLUME	49 GAL	98 GAL	147 GAL	196 GAL	245 GAL
TEMP, DEG C	10.2	10.2	10.5	9.8	11.0
pH, UNITS	7.7	7.3	7.2	7.3	7.1
SPECIFIC CONDUCTIVITY umhos/cm	760	703	701	696	701

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TFI0	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* see attached for volume calculations
* containerized purge H2O for VOC's

SIGNATURE: Paul C. Smith/MM
RECEIVED BY: Nancy E. Rora

375.5

378.06

768.58

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

PAGE ____ OF ____

SUBJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

PBN2701C

WELL ID PBN-27-01C

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

11-12-91

LOCATION

ACTIVITY START 1245/1700 END 1730/0830

PROGRAM

C

FILE NAME

CGW

WEATHER

overcast 30's

WATER LEVEL / WELL DATA

WELL DEPTH 201 FT

☒ MEASURED

☐ HISTORICAL

WATER DEPTH 109.68 FT

HEIGHT OF WATER COLUMN 91.32 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

78 GAL/VOL

390 TOTAL GAL PURGED

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.64 FT

PROTECTIVE CASING/WELL DIFF.

-0.26 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

107.3

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE DATA

PURGE VOLUME

11-11-91 11-11-91 11-11-91 11-11-91 11-12-91
270 GAL 150 GAL 234 GAL 512 GAL 390 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.7 11.5 12.0 11.5 11.4
7.4 6.8 6.7 7.3 7.5
675 673 672 672 672

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	NCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

see attached for volume calculations

* purge H2O contained for VOC's

- At 1700 still had 90 gal to purge. Already dark

- samples called in. I will finish tomorrow (11-12-91)

- PVC cap cracked

1 full volume collected on 11-12-91

SIGNATURE: RK S. J. / m

RECEIVED BY: Nancy E R

SPD = 8715 Mser = 874.05 GW elev. = 768.45
elev. = 8715

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

PBN87901D

SITE ID PBN-879-01D

SITE TYPE WELL

JOB NUMBER 6853-04

SAMPLING DATE 12.8.91

LOCATION ACTIVITY START 1300 END 1530

PROGRAM C

FILE NAME CGW

WEATHER foggy, 40°

WATER LEVEL / WELL DATA

WELL DEPTH 240 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2 52 FT

PROTECTIVE CASING/WELL DIFF. - 0.50 FT

WATER DEPTH 105.6 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

103.58

HEIGHT OF WATER COLUMN 134.4 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

108 GAL/VOL

539 TOTAL GAL PURGED

539

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: ☐

PURGE H2O CONTAINED? ☐ YES ☒ NO

WELL MATERIAL ☐ PVC ☒ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 0.5 PPM

PURGE DATA

PURGE VOLUME	13 56	14 32	15 08	15 44	16 20
	@ 108 GAL	@ 216 GAL	@ 324 GAL	@ 432 GAL	@ 539 GAL
TEMP, DEG C	10.7	10.6	10.1	10.1	10.2
pH, UNITS	8.71	8.44	8.14	8.32	8.30
SPECIFIC CONDUCTIVITY umhos/cm	645	649	670	653	688

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
ONT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- see attached for volumes

SIGNATURE: John Cate EE
RECEIVED BY: Nancy E. Roka

grd.
elev. = 877.6

riser
elev. = 900.25

GW
elev. = 767.35

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FBN8902B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-02B

JOB NUMBER

6853-04

SAMPLING DATE

11 21 91

LOCATION ACTIVITY START 1230 END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

CLDY 40°F

WATER LEVEL / WELL DATA

WELL DEPTH 160.1 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.73 FT

PROTECTIVE CASING/WELL DIFF.

-0.21 FT

WATER DEPTH 132.90 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

130.38

HEIGHT OF WATER COLUMN

27.2 FT

☐ 0.16 GAL/FT (2 IN)
☒ 0.65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

30 GAL/VOL

150

TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

PURGE DATA

PURGE VOLUME

230 GAL

260 GAL

290 GAL

220 GAL

250 GAL

TEMP, DEG C

10.2

10.3

10.3

10.2

10.3

PH, UNITS

7.6

7.6

7.5

7.6

7.7

SPECIFIC CONDUCTIVITY umhos/cm

682

681

681

678

682

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

URGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2	500 ml poly			
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
13N2	NO	H2SO4 TO pH<2	500 ML POLY			
JC	NO	HCL, 4 DEG C	(3)40 ML VIAL			
8N/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(Al,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* purge H2O containerized for voc's
- see attached for volume calculations

SIGNATURE: R. C. Smith
RECEIVED BY: Nancy E. Roman

$$\frac{G_w}{2124} = 767.53$$

PAGE OF

FIELD SAMPLING NUMBER

SITE TYPE	WELL
-----------	------

JOB NUMBER 6853-04

SAMPLING DATE	11-21-71
---------------	----------

PROGRAM	C
---------	---

FILE NAME	CGW
-----------	-----

WEATHER cloudy 40° E

☒ TOP OF WELL
☐ TOP OF CASING

WELL DEPTH 195.1 FT

MEASURED
HISTORICAL

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

239 FT

PROTECTIVE
CASING/WELL DIFF. 50 310 F

WATER DEPTH 129.51 FT

	<input type="checkbox"/>	16 GAL/FT (2 IN)
	<input checked="" type="checkbox"/>	.65 GAL/FT (4 IN)=
X	<input type="checkbox"/>	1.5 GAL/FT (6 IN)
	<input type="checkbox"/>	GAL/FT (IN)

55 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS) 127.48

HEIGHT OF
WATER COLUMN 1.569 FT

275 TOTAL GAL PURGED

	YES	NO	NA
WELL INTEGRITY:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROT. CASING SECURE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONCRETE COLLAR INTACT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WELL LOCKED	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER: <i>Cao</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.4 PPM

SAMPLE OBSERVATIONS

PURGE VOLUME	255 GAL	110 GAL	165 GAL	220 GAL	275 GAL
TEMP, DEG C	10.3	10.3	10.3	10.2	10.2
PH, UNITS	7.7	7.3	7.3	7.4	7.5
SPECIFIC CONDUCTIVITY umhos/cm	675	661	660	650	659

☒ CLEAR
☐ CLOUDY
☐ COLORED _____
☐ TURBID _____
☐ ODOR _____
☐ OTHER (SEE NOTES)

PURGING SAMPLING

PERISTALTIC PUMP ISCO # _____
SUBMERSIBLE PUMP GRUNDFOSS# _____
BAILER ☒ 2" ☐ 4" # _____
PVC/SILICON TUBING _____
IN-LINE/DISPOSABLE FILTER _____
OTHER _____

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

METHOD

ANALYTE	NUMBER	TESTED	METHOD	REQUIRED	COLLECTED	SAMPLES	COPIES TO NUMBERS	ESS lot
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		/	/	/
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			/	/	/
CA	SS16	YES	HNO3 TO pH<2			/	/	/
NA	SS16	YES	HNO3 TO pH<2			/	/	/
CD	SS16	YES	HNO3 TO pH<2			/	/	/
CR	SS16	YES	HNO3 TO pH<2			/	/	/
HG	SB03	YES	HNO3 TO pH<2			/	/	/
PB	SD24	YES	HNO3 TO pH<2			/	/	/
NI	SS16	YES	HNO3 TO pH<2			/	/	/
BA	SS16	YES	HNO3 TO pH<2			/	/	/
HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		373	/	0-28101
NIT	TFIO	YES	H2SO4 TO pH<2	500 ML POLY		374	/	
CL	TT08	YES	4 DEG C	500 ML POLY		375	/	
SO4	TT08	YES	4 DEG C			↓		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		376	/	
TDS	USEPA 160.1	NO	4 DEG C			↓		
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		/	/	
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		/	/	
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		377	378	379 0-2830
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		/	/	/
NG	99	NO	4 DEG C	1 L AG		/	/	/
NAM	UN06	NO	4 DEG C	1 L AG		382	/	0-28101
DNT	UN26	NO	4 DEG C	1 L AG		383	/	
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		/	/	

TAL METALS(Al, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16,SD24, SB03,99 (TL:GFAA, K/NA:ICP)

*purge H₂O containerized for VOC's
-see attached for volume calculations

SIGNATURE: *Paul C. Smith* / MM

RECEIVED BY: Nancy E. Rota

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 89 03 B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-03B

JOB NUMBER

6853-04

SAMPLING DATE

11.7.91

LOCATION

ACTIVITY START 1345 END 1500

PROGRAM

C

FILE NAME

CSW

WEATHER

Sunny, 10-20° F
w. n. e. l. y

WATER LEVEL / WELL DATA

WELL DEPTH 128 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 79.57 FT

HEIGHT OF
WATER COLUMN 48.43 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)=
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

48 GAL/VOL

210 TOTAL GAL PURGED

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

254 FT

PROTECTIVE
CASING/WELL DIFF.

-0.02 FT

WELL
DIAMETER ☒ 3 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION (BGS)

77.05

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.0 PPM

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: cap

PURGE DATA

PURGE VOLUME

a 48 GAL a 65 GAL a 150 GAL a 150 GAL a 210 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.8	9.9	10.1	10.2	10.1
7.5	7.5	7.3	7.3	7.2
653	624	654	651	652

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		
<input checked="" type="checkbox"/> NIT	TFIG	YES	H2SO4 TO pH<2	500 ML POLY	365	0703101C
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY	386	
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C	500 ML POLY	387	
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	388	
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C			
<input checked="" type="checkbox"/> TCC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL	369	0703101C
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> NAM	UM06	NO	4 DEG C	1 L AG	394	0703101C
<input checked="" type="checkbox"/> DNT	UM26	NO	4 DEG C	1 L AG	395	
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, KNA: PCP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, KNA: PCP)

- * See attached for volume calculations
- * purge H2O containerized for VOC's

SIGNATURE:

RECEIVED BY:

Nancy E. P.

475
262 = 846.87

SSR = 846.87

GW
2120 = 768.22

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-89-03C
 LOCATION ACTIVITY START 1330 END 1500

FIELD SAMPLING NUMBER PBN8903C
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 11-7-91
 FILE NAME CGW
 WEATHER Sunny, 10°-20°

WATER LEVEL / WELL DATA

WELL DEPTH 160 FT ☒ MEASURED ☐ HISTORICAL
 WATER DEPTH 78.65 FT
 HEIGHT OF WATER COLUMN 81 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN) = 60 GAL/VOL
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 PURGE H2O CONTAINED? ☐ YES ☒ NO ☒ PVC ☐ SS
 AMBIENT AIR 1 PPM WELL MOUTH 1 PPM
 TOP OF WELL ☒ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.65 FT
 PROTECTIVE CASING/WELL DIFF. -0.15 FT
 WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH
 GROUNDWATER ELEVATION (BGS) 76.15
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☒ ☐ ☐
 CONCRETE COLLAR INTACT ☒ ☐ ☐
 WELL LOCKED ☒ ☐ ☐
 OTHER: _____

PURGE DATA

PURGE VOLUME 260 GAL 212 GAL 150 GAL 240 GAL 331 GAL
 TEMP, DEG C 9.9 10.4 10.6 10.2 9.9
 PH, UNITS 7.4 7.2 7.4 7.3 7.4
 SPECIFIC CONDUCTIVITY umhos/cm 746 751 763 756 752
 SAMPLE OBSERVATIONS: CLEAR ☒ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES): _____

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
 SUBMERSIBLE PUMP ☒ GRUNDFOS#
 BAILER ☐ 2" ☐ 4" #
 PVC/SILICON TUBING ☒
 IN-LINE/DISPOSABLE FILTER ☐
 OTHER
 DECON FLUIDS USED ☒ POTABLE WATER ☐ ELECTRIC COND. PROBE
☒ LIQUINOX ☐ FLOAT ACTIVATED
☒ STEAM CLEANING ☐ PRESSURE TRANSDUCER
 WATER LEVEL EQUIP. USED ☒
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml Poly			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
HAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 - See attached for volume calculations
 STARTED PURGING PRIOR TO FINAL 5 VOLUME AMOUNT
 USED "P" DATA. 331 GAL'S IS CORRECT TOTAL
 SIGNATURE: RICSH/MN
 RECEIVED BY: Nancy E. Rota

4rd elev = 856.9

riser elev = 859.23

SUN elev = 766.04

ABB ENVIRONMENTAL SERVICES, INC.

FBN 89048

PAGE 0

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID FBN-89-048

JOB NUMBER 6853-04

SAMPLING DATE 11/7/97

LOCATION ACTIVITY START 1230 END 1400

PROGRAM C

FILE NAME CGW

WEATHER Sunny, 80°

WATER LEVEL / WELL DATA

WELL DEPTH 148 FT MEASURED ☒ HISTORICAL ☐

WATER DEPTH 93.19 FT

HEIGHT OF WATER COLUMN 5481 FT X .16 GAL/FT (2 IN) .65 GAL/FT (4 IN) 1.5 GAL/FT (6 IN) GAL/FT (IN)

55 GAL/VOL

275 TOTAL GAL PURGED

2.42 FT

PROTECTIVE CASING/WELL DIFF. -.24 FT

WELL DIAMETER 2 INCH 4 INCH 6 INCH

GROUNDWATER ELEVATION (BGS) 91.01

PURGE H2O CONTAINED? YES ☒ NO ☐

WELL MATERIAL PVC ☒ SS ☐

AMBIENT AIR PPM

WELL MOUTH PPM

WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: CM

YES NO YES

PURGE DATA

PURGE VOLUME	@ 55 GAL	@ 110 GAL	@ 165 GAL	@ 220 GAL	@ 275 GAL
TEMP, DEG C	9.8	9.5	7.4	9.8	10.2
PH, UNITS	6.7	7.0	7.2	7.3	7.4
SPECIFIC CONDUCTIVITY umhos/cm	757	740	751	766	757

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ISCO #
 SUBMERSIBLE PUMP GRUNDEOS#
 BAILER 2" 4" #
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2			
CA SS16	YES	HNO3 TO PH<2			
NA SS16	YES	HNO3 TO PH<2			
CD SS16	YES	HNO3 TO PH<2			
CR SS16	YES	HNO3 TO PH<2			
HG SB03	YES	HNO3 TO PH<2			
PB SD24	YES	HNO3 TO PH<2			
NI SS16	YES	HNO3 TO PH<2			
BA SS16	YES	HNO3 TO PH<2			
HARD USEPA 130.2	YES	HNO3 TO PH<2			
NIT TF10	YES	H2SO4 TO PH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO PH<2 (3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO PH<2 500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			
BN/A UM16	NO	4 DEG C (2) 1 L AG			
NG 99	NO	4 DEG C 1 L AG			
NAM UN06	NO	4 DEG C 1 L AG			
DNT UW26	NO	4 DEG C 1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO PH<2 1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* purge H2O contained for VOC's

SEE CALCULATIONS ON FOLLOWING SHEET FOR VOLUMES

SIGNATURE: Rick S. J. M.

RECEIVED BY: Nancy E. Korte

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-39-04C
 LOCATION ACTIVITY START 0800 END 1100

FIELD SAMPLING NUMBER PBN3904C
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 11-9-97
 FILE NAME CGW
 WEATHER Sunny, 21°C

WATER LEVEL / WELL DATA

WELL DEPTH 3185 FT ☒ MEASURED ☐ HISTORICAL
 WATER DEPTH 74.4 FT
 HEIGHT OF WATER COLUMN 2391 FT X ☐ .16 GAL/FT (2 IN) 84.5 GAL/VOL 84.5
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)
 PURGE H₂O CONTAINED? ☒ YES ☐ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR .5 PPM WELL MOUTH .5 PPM
 TOP OF WELL ☒ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 2.70 FT PROTECTIVE CASING/WELL DIFF. - .51 FT
 WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH GROUNDWATER ELEVATION 92.15 (BGS)
 WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
 CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
 WELL LOCKED ☒ YES ☐ NO ☐ N/A
 OTHER: _____

PURGE DATA

PURGE VOLUME	<u>285</u> GAL	<u>170</u> GAL	<u>255</u> GAL	<u>340</u> GAL	<u>425</u> GAL
TEMP, DEG C	<u>10.5</u>	<u>10.1</u>	<u>10.3</u>	<u>10.0</u>	<u>10.2</u>
PH, UNITS	<u>7.8</u>	<u>6.8</u>	<u>7.3</u>	<u>7.1</u>	<u>6.7</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>709</u>	<u>702</u>	<u>702</u>	<u>696</u>	<u>698</u>

SAMPLE OBSERVATIONS: ☒ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ PERISTALTIC PUMP EQUIPMENT ID _____
☐ SUBMERSIBLE PUMP ISCO # _____
☐ BAILER GRUNDEDS# _____
☐ PVC/SILICON TUBING ☒ 2" ☐ 4" # _____
☐ IN-LINE/DISPOSABLE FILTER _____
☐ OTHER _____
 DECON FLUIDS USED: ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED: ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UN26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:100)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:100)

*See attached for volume calculations
 -purge H₂O containerized for VOC's

SIGNATURE: _____

RECEIVED BY: _____

Nancy E. Rora

3121
2120 = 850.3

3121
2120 = 855.52

3121
2120 = 763.01

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID PBM-89-05
LOCATION ACTIVITY START 1200 END 1315

FIELD SAMPLING NUMBER PBM8905
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 11-9-91
FILE NAME CGW
WEATHER Sunny 10-20° F
Windy

WATER LEVEL / WELL DATA

WELL DEPTH 92 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 87.57 FT
HEIGHT OF WATER COLUMN 4.4 FT
PURGE H₂O CONTAINED? ☒ YES ☐ NO
WELL MATERIAL ☒ PVC ☐ SS
TOP OF WELL ☒ TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND) 3.02 FT
PROTECTIVE CASING/WELL DIFF. -1.16 FT
WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 84.39
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: CAP

PURGE DATA

PURGE VOLUME	<u>7</u> GAL	<u>14</u> GAL	<u>21</u> GAL	<u>28</u> GAL	<u>35</u> GAL
TEMP, DEG C	<u>9.9</u>	<u>10.1</u>	<u>9.6</u>	<u>9.8</u>	<u>9.8</u>
PH, UNITS	<u>7.6</u>	<u>7.5</u>	<u>7.4</u>	<u>7.5</u>	<u>7.4</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>705</u>	<u>702</u>	<u>703</u>	<u>702</u>	<u>704</u>

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
SUBMERSIBLE PUMP ☐ GRUNDFOS#
BAILER ☐ 2" ☐ 4" #
PVC/SILICON TUBING ☐
IN-LINE/DISPOSABLE FILTER ☐
OTHER ☐
DECON FLUIDS USED ☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2			
CA	SS16	YES	HNO ₃ TO pH<2			
NA	SS16	YES	HNO ₃ TO pH<2			
CD	SS16	YES	HNO ₃ TO pH<2			
CR	SS16	YES	HNO ₃ TO pH<2			
HG	SB03	YES	HNO ₃ TO pH<2			
PB	SD24	YES	HNO ₃ TO pH<2			
NI	SS16	YES	HNO ₃ TO pH<2			
BA	SS16	YES	HNO ₃ TO pH<2			
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2	500 ml poly		
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO ₄	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TCC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL		
NH ₃ N ₂	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM		

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:100)
TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:100)
*See attached for volume calculations
- purge H₂O containerized for VOC's
SIGNATURE: [Signature]
RECEIVED BY: [Signature]

gnd elev = 883.7

riser elev = 886.37

GW elev = 777.37

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM8706

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-87-06

JOB NUMBER

6853-04

SAMPLING DATE

11-11-91

LOCATION ACTIVITY START 0800 END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

Smog, ~20%

WATER LEVEL / WELL DATA

WELL DEPTH 50 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.56 FT

PROTECTIVE CASING/WELL DIFF.

-0.21 FT

WATER DEPTH 109.0 FT

☒ 1.6 GAL/FT (2 IN)
☒ 1.65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

62 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

106.65

HEIGHT OF WATER COLUMN 41 FT

310 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: cap

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 15 PPM

WELL MOUTH 13 PPM

PURGE DATA

PURGE VOLUME

262 GAL	224 GAL	286 GAL	222 GAL	230 GAL
11.4	11.1	10.8	11.4	11.2
7.5	7.6	7.6	7.1	7.5
716	708	711	714	711

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		421	0703101C
NIT TFO	YES	H2SO4 TO pH<2	500 ML POLY		422	
CL TT08	YES	4 DEG C	500 ML POLY		423	
SO4 TT08	YES	4 DEG C			424	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		425	
TDS USEPA 160.1	NO	4 DEG C			426	
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			427	0212301C
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG			430	0.28101C
DNT UW26	NO	4 DEG C 1 L AG			431	
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GMM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CU,CO,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* containerized purge H2O for VOC's
* see attached for volume calculations

SIGNATURE:

RECEIVED BY:

* PI meter was left in van while gas being purged. exposed to volatiles in abundance & could not time to equilibrate
- Got measurements on 11-10-91, but there wasn't enough time before dark to do well
w/ll sample 11-11-91. Pumping with pump - finished ~1200

3rd elev = 846.6 riser elev = 849.36 GW elev = 765.76

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM8907

PAGE 1

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11.7.91

SITE ID PBM-89-07

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1115 END 1330

PROGRAM C

WEATHER Sunny, 0°-10° F

WATER LEVEL / WELL DATA

WELL DEPTH 92.0 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.57 FT

PROTECTIVE
CASING/WELL DIFF. -0.35 FT

WATER DEPTH 83.40 FT

HEIGHT OF
WATER COLUMN 8.6 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

14 GAL/VOL

26

WELL DIAMETER
2 INCH
6 INCH

GROUNDWATER
ELEVATION (BGS) 81.18

TOTAL GAL PURGED 70

(B)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
X
X
X
X

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.9 PPM

WELL MOUTH 0.8 PPM

PURGE DATA

PURGE VOLUME

@ 14 GAL

@ 26 GAL

@ 42 GAL

@ 56 GAL

@ 70 GAL

TEMP, DEG C

9.5

9.8

10.0

9.8

9.8

PH, UNITS

8.0

7.8

7.5

7.8

7.8

SPECIFIC CONDUCTIVITY umhos/cm

595

598

604

604

604

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2	500 ml: poly		
NIT	YES	H2SO4 TO pH<2	500 ML POLY		
CL	YES	4 DEG C	500 ML POLY		
SO4	YES	4 DEG C			
ALK	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	NO	4 DEG C	(2) 1 L AG		
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* See attached for volume calculations
- Used historical well depth

SIGNATURE: Paul C. Smith

RECEIVED BY: Nancy E. R.

Flow = 885.5

Flow = 388.56

GW Elev = 765.90

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBM-89-08
 LOCATION ACTIVITY START 1030 END 1115

FIELD SAMPLING NUMBER PBM8908
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 11 6 7
 FILE NAME CGW
 WEATHER Part Sunny, 0' W/ water

WATER LEVEL / WELL DATA

WELL DEPTH 128 FT MEASURED
 WATER DEPTH 128.6 FT
 HEIGHT OF WATER COLUMN 4.5 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOP OF WELL TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 3.05 FT
 PROTECTIVE CASING/WELL DIFF. -17 FT
 WELL DIAMETER 2 INCH
 4 INCH
 6 INCH
 GROUNDWATER ELEVATION (BGS) 119.78
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 OTHER: cap
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR 1.0PPM
 WELL MOUTH 1.0PPM

PURGE DATA

PURGE VOLUME	20 GAL	56 GAL	84 GAL	112 GAL	143 GAL
TEMP, DEG C	8.7	8.7	8.7	2.0	1.5
PH, UNITS	7.6	7.6	8.0	7.6	7.7
SPECIFIC CONDUCTIVITY umhos/cm	654	650	653	652	652

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER
 EQUIPMENT ID
 ISCO #
 GRUNDFOS #
 2" 4" #
 DECON FLUIDS USED
☒ POTABLE WATER
☒ LIQUINOX
☒ STEAM CLEANING
 WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☒ FLOAT ACTIVATED
☒ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESC LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2				
CA	SS16	YES	HNO3 TO PH<2			
NA	SS16	YES	HNO3 TO PH<2			
CD	SS16	YES	HNO3 TO PH<2			
CR	SS16	YES	HNO3 TO PH<2			
HG	SB03	YES	HNO3 TO PH<2			
PB	SD24	YES	HNO3 TO PH<2			
NI	SS16	YES	HNO3 TO PH<2			
BA	SS16	YES	HNO3 TO PH<2			
HARD	USEPA 130.2	YES	HNO3 TO PH<2			
NIT	TT08	YES	H2SO4 TO PH<2			0703121C
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C	500 ML POLY		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO PH<2 (3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO PH<2 500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			
BN/A	UM16	NO	4 DEG C (2) 1 L AG			
NG	99	NO	4 DEG C 1 L AG			
NAM	UN06	NO	4 DEG C 1 L AG			
DNT	UN26	NO	4 DEG C 1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO PH<2 1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* purge H2O containerized for VOC's

* USED UPDATED VOLUMES DUE TO LARGE DIFFERENCE IN WATER ELEVATIONS OF 1997. 143 GAL FOR 5 VOLUMES FOR N. ROKA

SIGNATURE: *Rick C. Smith*

RECEIVED BY: *William E. Roka*

3rd
2800 = 230.6

1st
2120 = 383.43

GW
2120 = 772.20

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PAGE 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM2709

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-87-09

JOB NUMBER

6853-04

SAMPLING DATE

11-23-91

LOCATION

ACTIVITY

START 1245 END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy/rain

WATER LEVEL / WELL DATA

WELL DEPTH 124.10 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.79 FT

PROTECTIVE CASING/WELL DIFF.

-0.20 FT

WATER DEPTH 111.28 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

2124 GAL/VOL

TOTAL GAL PURGED

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

102.69

HEIGHT OF WATER COLUMN 12.82 FT

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 22 GAL @ 44 GAL @ 66 GAL @ 88 GAL @ 110 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.3	8.5	8.4	8.7	8.8
7.4	7.4	7.4	7.3	7.3
553	534	534	533	530

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS			
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY					ESS lot #
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
<input type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2						
<input type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2						
<input type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		457			0422101C
<input type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		458			
<input type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		459			
<input type="checkbox"/> SO4	TT08	YES	4 DEG C						
<input type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		460			
<input type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C						
<input type="checkbox"/> TCC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL						
<input type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY						
<input type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			461	462	463	0212201C
<input type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG						
<input type="checkbox"/> NG	99	NO	4 DEG C	1 L AG					
<input type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG		464			0128101C
<input type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG		467			
<input type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM					

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1C

*purge H2O containerized for VOC's
-see calculations for purge volumes

SIGNATURE: R. C. Smith / LC

RECEIVED BY: Nancy E. [Signature]

Site
Elev = 886.5

msr
elev. = 887.65

GW
Elev = 770.65

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8910A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-10A

JOB NUMBER

6853-04

SAMPLING DATE 12.5.91

LOCATION ACTIVITY START 0800 END 0900

PROGRAM

C

FILE NAME CGW

WEATHER Snow 10°F
windy

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.69 FT

PROTECTIVE CASING/WELL DIFF. - .18 FT

WELL DEPTH 127 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 119.00 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 116.49

HEIGHT OF WATER COLUMN 8.0 FT X
☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)=
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

13.27 GAL/VOL

67.0 TOTAL GAL PURGED

150

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 1.0 PPM

PURGE DATA

PURGE VOLUME

@ 13 GAL

@ 26 GAL

@ 39 GAL

@ 52 GAL

@ 65 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.0

8.7

9.2

9.6

9.4

7.2

7.1

7.2

7.2

7.2

657

636

653

667

633

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☒

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

☒

CA

SS16

YES

HNO3 TO pH<2

☒

NA

SS16

YES

HNO3 TO pH<2

☒

CD

SS16

YES

HNO3 TO pH<2

☒

CR

SS16

YES

HNO3 TO pH<2

☒

HG

SB03

YES

HNO3 TO pH<2

☒

PB

SD24

YES

HNO3 TO pH<2

☒

NI

SS16

YES

HNO3 TO pH<2

☒

BA

SS16

YES

HNO3 TO pH<2

☒

HARD

USEPA 130.2

YES

HNO3 TO pH<2

☒

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

CL

TT08

YES

4 DEG C

500 ML POLY

☒

SO4

TT08

YES

4 DEG C

500 ML POLY

☒

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☒

TDS

USEPA 160.1

NO

4 DEG C

☒

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☒

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☒

VOC

UM17

NO

NCL, 4 DEG C

(3)40 ML VIAL

☒

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☒

NG

99

NO

4 DEG C

1 L AG

☒

NAM

UN06

NO

4 DEG C

1 L AG

☒

DNT

UN26

NO

4 DEG C

1 L AG

☒

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

☒

625 / 0222501C
626 / 0222501C
627 / 0222501C
628 / 0222501C
629 / 630 / 631 / 0222501C
632 / 633 / 0222501C
634 / 0222501C
635 /

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOC's
-see calculations for purge volumes

SIGNATURE: P/C Smith/ABC

RECEIVED BY: Nancy E. Rofa

old elev. = 887.00
new elev. = 887.00

GW elev. = 770.89

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8910C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-89-10C

JOB NUMBER

6853-04

SAMPLING DATE

12-13-91

12-13-91

LOCATION

ACTIVITY

START 0800

END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

clear 25

WATER LEVEL / WELL DATA

WELL DEPTH

191.05 FT

MEASURED

☒

TOP OF WELL

PROTECTIVE

CASING STICK-UP

2.09

FT

PROTECTIVE

CASING/WELL DIFF.

-0.05

FT

WATER DEPTH

116.11 FT

HISTORICAL

WELL DIAMETER

2 INCH

GROUNDWATER

ELEVATION

114.07

(BGS)

HEIGHT OF

WATER COLUMN

74.94 FT

.16 GAL/FT (2 IN)

60 GAL/VOL

.65 GAL/FT (4 IN)

300 TOTAL GAL PURGED

1.5 GAL/FT (6 IN)

GAL/FT (IN)

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CWP

YES NO N/A

☒

☒

☒

PURGE H2O CONTAINED?

☐ YES

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

.6 PPM

WELL MOUTH

.6 PPM

PURGE DATA

PURGE VOLUME

@ 60 GAL

@ 120 GAL

@ 180 GAL

@ 240 GAL

@ 300 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

10.4

10.5

10.8

10.8

10.5

7.4

7.5

7.4

7.5

7.3

410

421

427

424

423

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

500 ML POLY

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

647 / 0222801C
648 / 0222801C
649 / 0222801C
650 / 0222801C
651 / 652 / 653 / 0212301C
654 / 655 / 0212301C
656 / 0212301C
657 /

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

see attached for volumes

SIGNATURE: Pal G. H. / M.

RECEIVED BY: Nancy E. Rocco

1st elev. = 880.9

2nd elev. = 884.25

GW elev. = 770.56

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8910D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11-12-91

SITE ID PBN-89-10D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1100 END 1430

PROGRAM C

WEATHER Overcast, 23°F

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.53 FT

PROTECTIVE CASING/WELL DIFF. -.23 FT

WELL DEPTH 239.5 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 113.69 FT

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION 111.39 (8GS)

HEIGHT OF WATER COLUMN 126 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

99 GAL/VOL 99

495 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: Cap

PURGE H2O CONTAINED? YES NO

WELL MATERIAL PVC SS

AMBIENT AIR 8 PPM

WELL MOUTH 8 PPM

PURGE DATA

PURGE VOLUME	2 99 GAL	2 148 GAL	2 217 GAL	2 316 GAL	2 415 GAL
TEMP, DEG C	11.9	12.0	11.9	11.7	11.6
PH, UNITS	7.0	7.5	7.0	7.0	7.5
SPECIFIC CONDUCTIVITY umhos/cm	558	562	563	563	562

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID
ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
- See attached for volumes

SIGNATURE: RLC Sill/mn

RECEIVED BY: Nancy E. [Signature]

STC
ELEV = 881.6

Riser
ELEV = 884.41

GW
ELEV = 773.87

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM89111

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBM-89-111

JOB NUMBER

6853-04

SAMPLING DATE

11-6-91

LOCATION

ACTIVITY

START 1450 END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

pt. sunny

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

CASING STICK-UP

2.90 FT

PROTECTIVE

CASING/WELL DIFF.

-0.2 FT

WELL DEPTH

113 FT

☒ MEASURED

☐ HISTORICAL

WATER DEPTH

110.5 FT

HEIGHT OF

WATER COLUMN

2.5 FT

1.16 GAL/FT (2 IN)
1.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

4 GAL/VOL

25

TOTAL GAL PURGED

118

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER

ELEVATION

107.82

(BGS)

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER:

YES NO N/A

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

PURGE H2O CONTAINED?

☐ YES

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

1.2 PPM

WELL MOUTH

1.2 PPM

PURGE DATA

PURGE VOLUME

@ 5 GAL

@ 10 GAL

@ 15 GAL

@ 20 GAL

@ 25 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

5.8

9.5

9.4

9.6

9.7

7.1

7.2

7.3

7.3

7.3

600

641

657

660

637

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA

NA

CD

CR

HG

PB

NI

BA

HARD

NIT

CL

SO4

ALK

TDS

TOC

NH3N2

VOC

BN/A

NG

NAM

DNT

TPH

SS16

SS16

SS16

SS16

SS16

SB03

SD24

SS16

SS16

USEPA 130.2

TT08

TT08

TT08

USEPA 310.1

USEPA 160.1

USEPA 415.1

USEPA 350.2

UM17

UM16

99

UN06

UN26

USEPA 418.1

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2 (3)40 ML VIAL

H2SO4 TO pH<2 500 ML POLY

HCL, 4 DEG C (3)40 ML VIAL

4 DEG C (2) 1 L AG

4 DEG C 1 L AG

4 DEG C 1 L AG

H2SO4 TO pH<2 1 L GUM

1 L POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

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SAMPLE BOTTLE ID NUMBERS

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SAMPLE BOTTLE ID NUMBERS

SAMPLE BOTTLE ID NUMBERS

SAMPLE BOTTLE ID NUMBERS

SAMPLE BOTTLE ID NUMBERS

SAMPLE BOTTLE ID NUMBERS

grad.
elev. = 852.6

rise = 855.66
elev = 855.66

GWL = 764.29
elev = 764.29

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER PBN 8712A

SITE ID PBN-89-12A

SITE TYPE WELL

SAMPLING DATE 11-5-91

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1330 END 1430

PROGRAM C

WEATHER overcast snow

WATER LEVEL / WELL DATA

WELL DEPTH 103.5 FT MEASURED
WATER DEPTH 91.37 FT HISTORICAL

TOP OF WELL
TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND) 2.86 FT

PROTECTIVE CASING/WELL DIFF. -0.8 FT

HEIGHT OF WATER COLUMN 12 FT
16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
30 GAL/VOL
150 TOTAL GAL PURGED

WELL DIAMETER 2 INCH
4 INCH
6 INCH
GROUNDWATER ELEVATION (BGS) 88.59

PURGE H2O CONTAINED? YES NO
WELL MATERIAL PVC SS

AMBIENT AIR PPM
WELL MOUTH PPM

WELL INTEGRITY: YES NO
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

PURGE DATA

PURGE VOLUME	@ 30 GAL	@ 60 GAL	@ 90 GAL	@ 120 GAL	@ 150 GAL
TEMP, DEG C	9.1	10.2	10.0	9.9	9.9
PH, UNITS	7.4	7.3	7.3	7.3	7.2
SPECIFIC CONDUCTIVITY umhos/cm	752	731	726	724	723

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TT08	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C	500 ML POLY		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC UM17	NO	NCL, 4 DEG C (3)40 ML VIAL			
BN/A UM16	NO	4 DEG C (2) 1 L AG			
NG 99	NO	4 DEG C 1 L AG			
NAM UN06	NO	4 DEG C 1 L AG			
DNT UW26	NO	4 DEG C 1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

sample actually collected at ~ 1545
* historical volumes used

SIGNATURE: P. Smith / M. McG...

(1745) missed Fed-Ex. Bad road conditions

RECEIVED BY: Nancy E. R...

prevent driving to madison. I added
H2SO4 to Nit samples to extend hold time
(method # TF10) Samples kept on ice entire time.

orig elev = 856.6

riser elev = 856.04

GLW elev = 770.27

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE ID PBN-89-12B

LOCATION ACTIVITY START 1440 END 1540

FIELD SAMPLING NUMBER PBN8912B

SITE TYPE WELL

JOB NUMBER 6853-04

PROGRAM C

SAMPLING DATE 11591

FILE NAME CGW

WEATHER cloudy, snow, mild

WATER LEVEL / WELL DATA

WELL DEPTH 140 FT ☐ MEASURED ☒ HISTORICAL

WATER DEPTH 85.15 FT

HEIGHT OF WATER COLUMN 55 FT X ☐ .16 GAL/FT (2 IN) ☒ .65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) ☐ GAL/FT (___ IN)

PURGE H₂O CONTAINED? ☒ YES ☐ NO WELL MATERIAL ☒ PVC ☐ SS

PROTECTIVE TOP OF WELL ☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 3.66 FT

WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 81.80

PROTECTIVE CASING/WELL DIFF. 4.31 FT

38 GAL/VOL

190 TOTAL GAL PURGED

WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: CM

AMBIENT AIR 0.0 PPM WELL MOUTH 0.0 PPM

PURGE DATA

PURGE VOLUME	<u>240</u> GAL	<u>280</u> GAL	<u>120</u> GAL	<u>160</u> GAL	<u>200</u> GAL
TEMP, DEG C	<u>9.6</u>	<u>9.9</u>	<u>9.5</u>	<u>9.1</u>	<u>9.4</u>
pH, UNITS	<u>7.0</u>	<u>7.0</u>	<u>7.9</u>	<u>7.5</u>	<u>7.9</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>725</u>	<u>720</u>	<u>715</u>	<u>717</u>	<u>719</u>

SAMPLE OBSERVATIONS: ☒ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #

SUBMERSIBLE PUMP ☒ GRUNDEOS#

BAILER ☒ 2" 4" #

PVC/SILICON TUBING ☒

IN-LINE/DISPOSABLE FILTER ☒

OTHER ☐

DECON FLUIDS USED: ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED: ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TT08	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UN26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2 1 L GUM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* purge H₂O contained for VOC's

* historical volumes used

- Sample actually collected ~ 1715. At (1745)

g missed Fed-Ex. Bad road conditions to madison.

g added H₂SO₄ to Nit sample to extend hold time.

(method # TF10) samples kept on ice entire time.

SIGNATURE: P. Smith / M. McGibue

RECEIVED BY: Nancy E. Roke

and
2120 = 8578

2120 = 850 47

GW
2120 = 76895

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID PBM-85-011
LOCATION ACTIVITY START 0800 END 0845

FIELD SAMPLING NUMBER PBM85011
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 11-21-11
FILE NAME CGW
WEATHER Pky cloudy 30's

WATER LEVEL / WELL DATA

WELL DEPTH 100.8 FT MEASURED
WATER DEPTH 93.52 FT HISTORICAL
HEIGHT OF WATER COLUMN 7.3 FT
PURGE H2O CONTAINED? YES
WELL MATERIAL PVC
AMBIENT AIR 8 PPM
WELL MOUTH 8 PPM
WELL DEPTH 100.8 FT
WATER DEPTH 93.52 FT
HEIGHT OF WATER COLUMN 7.3 FT
PURGE H2O CONTAINED? YES
WELL MATERIAL PVC
AMBIENT AIR 8 PPM
WELL MOUTH 8 PPM

PURGE DATA

PURGE VOLUME	@ 6 GAL	@ 12 GAL	@ 18 GAL	@ 24 GAL	@ 30 GAL
TEMP, DEG C	10.1	10.3	10.4	10.3	10.3
PH, UNITS	7.2	7.4	7.4	7.5	7.6
SPECIFIC CONDUCTIVITY umhos/cm	684	692	702	703	702

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING PERISTALTIC PUMP
SAMPLING SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
EQUIPMENT ID
DECON FLUIDS USED
WATER LEVEL EQUIP. USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2	500 ml poly		
NIT	YES	H2SO4 TO pH<2	500 ML POLY		
CL	YES	4 DEG C	500 ML POLY		
SO4	YES	4 DEG C	500 ML POLY		
ALK	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC	NO	HCL, 4 DEG C (3)40 ML VIAL			
BN/A	NO	4 DEG C (2) 1 L AG			
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
* purge H2O containerized for VOC's
- used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. R.

MDL = ~8841

riser elev = 885.98

GW elev = 767.42

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBM-85-03
 LOCATION ACTIVITY START 0900 END 1000

FIELD SAMPLING NUMBER PBM8503
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 11-21-91
 FILE NAME CGW
 WEATHER Pkg 12, 30S

WATER LEVEL / WELL DATA

WELL DEPTH 148 FT MEASURED
 WATER DEPTH 117.54 FT HISTORICAL
 HEIGHT OF WATER COLUMN 114.56 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOP OF WELL TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 304 FT
 PROTECTIVE CASING/WELL DIFF. -42 FT
 WELL DIAMETER 2 INCH
 GROUNDWATER ELEVATION (BGS) 113.92
 26 GAL/VOL (26)
 130 TOTAL GAL PURGED (130)
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A
 CONCRETE COLLAR INTACT YES NO N/A
 WELL LOCKED YES NO N/A
 OTHER: cap

PURGE DATA

PURGE VOLUME	@ 26 GAL	@ 52 GAL	@ 76 GAL	@ 104 GAL	@ 130 GAL
TEMP, DEG C	9.6	10.0	9.8	9.8	7.5
PH, UNITS	7.7	7.3	7.5	7.5	7.9
SPECIFIC CONDUCTIVITY umhos/cm	738	744	734	738	737

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER
 EQUIPMENT ID
 ISCO #
 GRUNDEOS#
 2" 4" #
 DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		157	
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		158	
CL TT08	YES	4 DEG C	500 ML POLY		159	
SO4 TT08	YES	4 DEG C			160	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		161	
BN/A UM16	NO	4 DEG C	(2) 1 L AG		162	
NG 99	NO	4 DEG C	1 L AG		163	
NAM UN06	NO	4 DEG C	1 L AG		164	
DNT UN26	NO	4 DEG C	1 L AG		165	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		166	
					167	

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, KNA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, KNA:ICP)

* purge H2O containerized for VOC's
 - used historical purge volume

SIGNATURE: [Signature]
 RECEIVED BY: Nancy E. [Signature]

and
elev. = 7862.0

river
elev. = 366.65

Gr.
elev. = 767.60

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

P6M8504

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID P6M-85-04

JOB NUMBER 6853-04

SAMPLING DATE 11-2-91

LOCATION ACTIVITY START 1530 END 1630

PROGRAM C

FILE NAME CGW

WEATHER prt. Sunny, 90 w/ wind cr.

WATER LEVEL / WELL DATA

WELL DEPTH 124 ± FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.66 FT

PROTECTIVE CASING/WELL DIFF. -0.58 FT

WATER DEPTH 99.05 FT

WELL DIAMETER 4 INCH

GROUNDWATER ELEVATION (BGS) 96.75

HEIGHT OF WATER COLUMN 25 FT X .16 GAL/FT (2 IN) .65 GAL/FT (4 IN) 1.5 GAL/FT (6 IN)

18 GAL/VOL

90 TOTAL GAL PURGED

89

WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER:

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

PURGE DATA

PURGE VOLUME	18 GAL	36 GAL	54 GAL	72 GAL	90 GAL
TEMP, DEG C	9.1	9.8	9.6	9.6	9.6
PH, UNITS	8.1	8.0	7.8	7.7	7.7
SPECIFIC CONDUCTIVITY umhos/cm	782	759	759	757	754

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS Lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly			
NIT TT08	YES	4 DEG C	500 ML POLY	169		0703101C
CL TT08	YES	4 DEG C	500 ML POLY	170		
SO4 TT08	YES	4 DEG C	500 ML POLY	171		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	172		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAH UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
- containerized purge H2O for VOC's
- used historical volumes + Bow

SIGNATURE: Paul C. Smith / MM
RECEIVED BY: Nancy E. Rota

$$G_{w, \text{plan}} = 76.97$$

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PAGE 01

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT	USATHAMA-BAAP									
SITE ID	P	B	m	-	8	5	-	0	5	
LOCATION										
ACTIVITY	START	1400				END				1500
		1400								1500

SITE TYPE	WELL	
JOB NUMBER	6853-04	
PROGRAM	C	

SAMPLING DATE	11.8.91
FILE NAME	CGW
WEATHER	prt. sunny. = C

WATER LEVEL / WELL DATA

WELL LEVEL / WELL DATA		<input type="checkbox"/> TOP OF WELL <input checked="" type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND)	<div style="border: 1px solid black; padding: 2px;">2.75 FT</div>	PROTECTIVE CASING/WELL DIFF.	<div style="border: 1px solid black; padding: 2px;">-0.74 FT</div>
WELL DEPTH	<div style="border: 1px solid black; padding: 2px;">110 ± FT</div>	<input type="checkbox"/> MEASURED <input checked="" type="checkbox"/> HISTORICAL		WELL DIAMETER	<div style="border: 1px solid black; padding: 2px;"><input checked="" type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH</div>	GROUNDWATER ELEVATION (BGS)
WATER DEPTH	<div style="border: 1px solid black; padding: 2px;">96.91 FT</div>		<div style="border: 1px solid black; padding: 2px;">10 GAL/VOL</div>	<div style="border: 1px solid black; padding: 2px;">10</div>		<div style="border: 1px solid black; padding: 2px;">94.32</div>
HEIGHT OF WATER COLUMN	<div style="border: 1px solid black; padding: 2px;">13 FT</div>	X	<div style="border: 1px solid black; padding: 2px;">.16 GAL/FT (2 IN) .65 GAL/FT (4 IN)= 1.5 GAL/FT (6 IN) _ _ GAL/FT (_ IN)</div>	<div style="border: 1px solid black; padding: 2px;">50 TOTAL GAL PURGED</div>	<div style="border: 1px solid black; padding: 2px;">(50)</div>	WELL INTEGRITY: PROT. CASING SECURE <input checked="" type="checkbox"/> CONCRETE COLLAR INTACT <input checked="" type="checkbox"/> WELL LOCKED OTHER:
PURGE H2O CONTAINED?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	WELL MATERIAL	<div style="border: 1px solid black; padding: 2px;">PVC</div>	<div style="border: 1px solid black; padding: 2px;">SS</div>	AMBIENT AIR	<div style="border: 1px solid black; padding: 2px;">0.8 PPM</div>
					WELL MOUTH	<div style="border: 1px solid black; padding: 2px;">0.8 PPM</div>

PURGE DATA

PURGE VOLUME	a <u>10</u> GAL	a <u>20</u> GAL	a <u>30</u> GAL	a <u>40</u> GAL	a <u>50</u> GAL	SAMPLE OBSERVATIONS <input type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED _____ <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	<u>9.1</u>	<u>9.3</u>	<u>9.6</u>	<u>9.1</u>	<u>9.5</u>	
pH, UNITS	<u>7.2</u>	<u>7.3</u>	<u>7.4</u>	<u>7.4</u>	<u>7.3</u>	
SPECIFIC CONDUCTIVITY umhos/cm	<u>755</u>	<u>776</u>	<u>785</u>	<u>780</u>	<u>783</u>	
_____	_____	_____	_____	_____	_____	

EQUIPMENT DOCUMENTATION

PURGING		SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP	ISCO # _____	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP	GRUNDFOS# _____	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BAILER	<input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" # _____	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PVC/SILICON TUBING		_____	_____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	IN-LINE/DISPOSABLE FILTER	_____		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	OTHER	_____	NUMBER OF FILTERS USED	

ANALYTICAL PARAMETERS

ANALYTICAL PARAMETERS		METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS				ESS lot #
PP METALS (SPECIFIED BELOW)			YES	HNO3 TO pH<2	1 L POLY						
TAL METALS (SPECIFIED BELOW)			YES	HNO3 TO pH<2							
CA	SS16	YES	HNO3 TO pH<2								
NA	SS16	YES	HNO3 TO pH<2								
CD	SS16	YES	HNO3 TO pH<2								
CR	SS16	YES	HNO3 TO pH<2								
HG	S803	YES	HNO3 TO pH<2								
PB	S024	YES	HNO3 TO pH<2								
NI	SS16	YES	HNO3 TO pH<2								
BA	SS16	YES	HNO3 TO pH<2								
HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		181					0703101
NIT	TT08	YES	500 ml poly	500 ML POLY		182					
CL	TT08	YES	4 DEG C	500 ML POLY		183					
SO4	TT08	YES	4 DEG C								
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		184					
TDS	USEPA 160.1	NO	4 DEG C								
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL							
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY							
VGC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		185	186	187			0212301
BN/A	UM16	NO	4 DEG C	(2) 1 L AG							
NG	99	NO	4 DEG C	1 L AG							
VAM	UN06	NO	4 DEG C	1 L AG		190					0128101
NT	UN26	NO	4 DEG C	1 L AG		191					
IPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM							

NOTES

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- containerized purge H₂O for VOC's
- used historical "volumes" + Bow

SIGNATURE: *Paul C. Smith / mm*

RECEIVED BY: 1 NAME: E. B. [REDACTED]

Arcl elev = ~843.5 riser elev = 848.12

GW elev = 765.21

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM8506

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11-6-91

SITE ID PBM-85-06

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0900 END 1000

PROGRAM C

WEATHER prt. sunny, 0" w/ wind chill

WATER LEVEL / WELL DATA

WELL DEPTH 104 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND)

3.55 FT

PROTECTIVE CASING/WELL DIFF. 0.4 FT

WATER DEPTH 82.91 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 80.26

HEIGHT OF WATER COLUMN 21 FT X .16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)=
1.5 GAL/FT (6 IN)
GAL/FT (IN)

15 GAL/VOL
75 TOTAL GAL PURGED

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

PURGE H2O CONTAINED? YES NO
WELL MATERIAL PVC SS

AMBIENT AIR PPM WELL MOUTH 12 PPM

PURGE DATA

USED "AT" VALUES

PURGE VOLUME	@ 15 GAL	@ 30 GAL	@ 45 GAL	@ 60 GAL	@ 75 GAL
TEMP, DEG C	10	8.9	8.8	8.6	8.6
pH, UNITS	5.7	6.5	6.5	7.1	7.2
SPECIFIC CONDUCTIVITY umhos/cm	523	525	522	527	527

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS#
2" 4" #

FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml	poly	193	0222801C
NIT TT08	YES	HNO3 TO pH<2	500 ML POLY		194	
CL TT08	YES	4 DEG C	500 ML POLY		195	0703101C
SO4 TT08	YES	4 DEG C	500 ML POLY		196	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		197	0212301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		198	
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		202	0123101C
DNT UW26	NO	4 DEG C	1 L AG		203	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

*containerized for VOC's
- used historic Bow - volumes

SIGNATURE: Paul C. Selt
RECEIVED BY: Nancy E. Rofka

alt elev. = 2869.5

rise elev. = 274.56

GW elev. = 768.54

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8501A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-85-01A

JOB NUMBER

6853-04

SAMPLING DATE

11-13-91

LOCATION

ACTIVITY START 1045 END 1145

PROGRAM

C

FILE NAME

CGW

WEATHER

overcast-10°F

WATER LEVEL / WELL DATA

WELL DEPTH

120 FT

MEASURED

☒

TOP OF WELL

PROTECTIVE

CASING STICK-UP (FROM GROUND)

3.40

FT

PROTECTIVE

CASING/WELL DIFF.

-0.30

TER DEPTH

100.02

HISTORICAL

☐

WELL DIAMETER

2 INCH

GROUNDWATER

ELEVATION (BG's)

102.84

HEIGHT OF

WATER COLUMN

14

FT

X

16 GAL/FT (2 IN)

11

GAL/VOL

11

0.65 GAL/FT (4 IN)

55

TOTAL GAL PURGED

55

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: cap

YES

NO

N/A

PURGE H2O CONTAINED?

YES

WELL MATERIAL

PVC

AMBIENT AIR

1.5

WELL MOUTH

1.5

PURGE DATA

PURGE VOLUME

@ 11 GAL

@ 22 GAL

@ 33 GAL

@ 44 GAL

@ 55 GAL

TEMP, DEG C

9.9

10.1

9.9

10.1

10.3

pH, UNITS

7.3

7.4

7.4

7.4

7.5

SPECIFIC CONDUCTIVITY umhos/cm

720

717

712

717

714

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEPS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

SR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

M

UN06

NO

4 DEG C

1 L AG

T

UN26

NO

4 DEG C

1 L AG

PH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* used historical volumes

* purge H2O contained for VOC's

SIGNATURE: *Paul S. Hill*

RECEIVED BY: *Wendy E. Hill*

200 = 2894.6

MSR = 898.79
elev. = 898.79

GW = 756.58
elev. = 756.58

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID PBN-85-02A
LOCATION ACTIVITY START 1015 END 1100

FIELD SAMPLING NUMBER PBN8502A
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 11-21-91
FILE NAME CGW
WEATHER prt cloudy, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 138.5 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 130.2 FT
HEIGHT OF WATER COLUMN 8.3 FT
PROTECTIVE TOP OF WELL ☒ TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND) 2.8 FT
PROTECTIVE CASING/WELL DIFF. -0.36 FT
WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 127.71
WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
OTHER: cap

PURGE DATA

PURGE VOLUME	@ 7 GAL	@ 14 GAL	@ 21 GAL	@ 28 GAL	@ 35 GAL
TEMP, DEG C	<u>9.5</u>	<u>9.9</u>	<u>9.9</u>	<u>9.9</u>	<u>9.9</u>
PH, UNITS	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>723</u>	<u>730</u>	<u>729</u>	<u>725</u>	<u>729</u>

SAMPLE OBSERVATIONS: CLEAR ☒ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES) ☐

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
SUBMERSIBLE PUMP ☒ GRUNDEOS # 88266
BAILER ☒ 2" 4" #
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☐
OTHER ☐
DECON FLUIDS USED: POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING ☐
WATER LEVEL EQUIP. USED: ELECTRIC COND. PROBE ☒ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER ☐
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C	500 ML POLY			
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
*purge H2O containerized for VOC's
-used historical volumes
SIGNATURE: [Signature] PCS
RECEIVED BY: Wamcy E. Rofa

rise
elev = 846.5

rise
elev = 851.22

GW
elev = 708.22

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8503A

PAGE 01

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-85-03A

JOB NUMBER

6853-04

SAMPLING DATE

11/9/91

LOCATION

ACTIVITY START 1515 END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 10°-20°F
windy

WATER LEVEL / WELL DATA

WELL DEPTH 91 FT

☒ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.05
2.51 FT

PROTECTIVE CASING/WELL DIFF.

2.01
0.02

WATER DEPTH 83.0 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

10 GAL/VOL

(10)

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

80.06

HEIGHT OF WATER COLUMN 8.0 FT

50 TOTAL GAL PURGED

(50)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: Cap

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.8 PPM

WELL MOUTH 0.8 PPM

PURGE DATA

PURGE VOLUME	@ 10 GAL	@ 20 GAL	@ 30 GAL	@ 40 GAL	@ 50 GAL
TEMP, DEG C	9.1	9.6	9.9	9.9	9.9
PH, UNITS	7.4	7.5	7.5	7.5	7.5
SPECIFIC CONDUCTIVITY umhos/cm	543	581	593	598	602

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2	500 ml poly	349	070310: C
NIT	YES	H2SO4 TO pH<2	500 ML POLY	350	
CL	YES	4 DEG C	500 ML POLY	351	
SO4	YES	4 DEG C			
ALK	NO	4 DEG C	500 ML POLY	352	
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC	NO	HCL, 4 DEG C (3)40 ML VIAL		353	354
BN/A	NO	4 DEG C (2) 1 L AG			021230: C
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG	358	0.2210: C
DNT	NO	4 DEG C	1 L AG	359	
TPH	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:APP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:APP)

* used historical volumes
* purge H2O contained for VOC's

SIGNATURE:

RECEIVED BY:

Nancy E. [Signature]

3rd
elev. = ~855.1

river
elev. = 860.36

GW
elev. = 766.49

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8504A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-85-04A

JOB NUMBER

6853-04

SAMPLING DATE

11-8-91

LOCATION

ACTIVITY

START 1100

END 1200

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 0°-10°

WATER LEVEL / WELL DATA

WELL DEPTH

111 FT

MEASURED

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.08 FT

PROTECTIVE CASING/WELL DIFF.

-.18 FT

WATER DEPTH

13.87 FT

HISTORICAL

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BG)

90.97

HEIGHT OF WATER COLUMN

17 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

13 GAL/VOL

13

65 TOTAL GAL PURGED

63

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

PURGE DATA

PURGE VOLUME

@ 13 GAL

@ 25 GAL

@ 39 GAL

@ 52 GAL

@ 65 GAL

TEMP, DEG C

9.4

10.1

9.7

9.3

9.7

PH, UNITS

7.2

7.2

7.5

7.4

7.2

SPECIFIC CONDUCTIVITY umhos/cm

712

750

728

727

720

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG				
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UW26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* used historical volumes
* purge H2O containerized for VOC's

SIGNATURE: Paul G. Smith / JMM

RECEIVED BY: Nancy E. Rofka

3rd.
elev. = 855.7msr
elev. = 857.60Gw
elev. = 771.14

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FBM 8201

PAGE

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID FBM-82-01

JOB NUMBER

6853-04

SAMPLING DATE

11/25/91

LOCATION

ACTIVITY

START 0930

END 1045

PROGRAM

C

FILE NAME

CGW

WEATHER

20°F clear
windy

WATER LEVEL / WELL DATA

WELL DEPTH 99.51 FT

☒ MEASURED
☐ HISTORICAL☒ TOP OF WELL
☐ TOP OF CASINGPROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.05 FT

PROTECTIVE
CASING/WELL DIFF.

-0.5 FT

WATER DEPTH 86.46 FT

HEIGHT OF
WATER COLUMN 13.05 FT☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

27.4 GAL/VOL

137 TOTAL GAL PURGED

WELL
DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCHGROUNDWATER
ELEVATION
(BGS)

74.91

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAPYES
☒ NO
☐ NO
☐ NOPURGE H2O CONTAINED?
☒ YES ☐ NOWELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .8 PPM

WELL MOUTH .3 PPM

PURGE DATA

PURGE VOLUME

@ 27 GAL

@ 54 GAL

@ 81 GAL

@ 108 GAL

@ 137 GAL

TEMP, DEG C

4.1

4.0

4.4

4.3

7.9

PH, UNITS

7.50

7.53

7.44

7.61

7.40

SPECIFIC CONDUCTIVITY umhos/cm

439

479

436

437

466

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SC4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOC's
-used historical volumes

SIGNATURE:

RECEIVED BY:

R. C. S. 11/25/91
Nancy E. R.

3rd elev = 869.0 1st elev = 871.42 GLW elev = 769.90

700

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

PBM8204

SITE ID PBM-82-04

SITE TYPE WELL

SAMPLING DATE 11/24

LOCATION ACTIVITY START 0930 END 10:5

JOB NUMBER 6853-04

FILE NAME CGW

PROGRAM C

WEATHER pri cloudy 20

WATER LEVEL / WELL DATA

WELL DEPTH 115.15 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.31 FT

PROTECTIVE CASING/WELL DIFF.

-1.06 FT

WATER DEPTH 101.52 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

99.27

HEIGHT OF WATER COLUMN 13.63 FT X

☒ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

27 GAL/VOL

135 TOTAL GAL PURGED

135

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1.0 PPM

WELL MOUTH 1.0 PPM

PURGE DATA

PURGE VOLUME

27 GAL

54 GAL

81 GAL

108 GAL

135 GAL

TEMP, DEG C

7.0

7.47

7.5

7.5

7.61

PH, UNITS

7.59

7.76

7.72

7.71

7.77

SPECIFIC CONDUCTIVITY umhos/cm

614

615

619

616

600

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO PH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO PH<2				
CA	SS16	YES	HNO3 TO PH<2				
NA	SS16	YES	HNO3 TO PH<2				
CD	SS16	YES	HNO3 TO PH<2				
CR	SS16	YES	HNO3 TO PH<2				
HG	SB03	YES	HNO3 TO PH<2				
PB	SD24	YES	HNO3 TO PH<2				
NI	SS16	YES	HNO3 TO PH<2				
BA	SS16	YES	HNO3 TO PH<2				
HARD	USEPA 130.2	YES	HNO3 TO PH<2	500 ML POLY		109	0425101C
NIT	TF10	YES	H2SO4 TO PH<2	500 ML POLY		110	
CL	TT08	YES	4 DEG C	500 ML POLY		111	
SO4	TT08	YES	4 DEG C	500 ML POLY		112	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		113	
TDS	USEPA 160.1	NO	4 DEG C			114	
TOC	USEPA 415.1	NO	H2SO4 TO PH<2 (3)40 ML VIAL			115	
NH3N2	USEPA 350.2	NO	H2SO4 TO PH<2 (3)40 ML VIAL			116	
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			117	
BN/A	UM16	NO	4 DEG C (2) 1 L AG			118	
NG	99	NO	4 DEG C 1 L AG			119	
NAM	UN06	NO	4 DEG C 1 L AG				
DNT	UN26	NO	4 DEG C 1 L AG				
TPH	USEPA 418.1	NO	H2SO4 TO PH<2 1 L GUM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)

* purge H2O containerized for VOC's
-used historical volumes

SIGNATURE: *[Signature]*
RECEIVED BY: *Nancy E. Rotta*

grd elev = 881.5

riser elev = 884.38

GW elev = 772.20

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN3201A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-82-01A

JOB NUMBER

6853-04

SAMPLING DATE

12-4-91
11-25-91 (M)

LOCATION

ACTIVITY

START 11300800 END 1230 0830

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 5°F

WATER LEVEL / WELL DATA

WELL DEPTH

140.7 FT

☒ MEASURED
☐ HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.23
2.36 FT

PROTECTIVE
CASING/WELL DIFF.

16.02
16.05 FT

WATER DEPTH

112.57 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

109.97

HEIGHT OF
WATER COLUMN

24.56 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

29 GAL/VOL

TOTAL GAL PURGED

145

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?

☒ YES
☐ NO

WELL MATERIAL

☒ PVC
☐ SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.3 PPM

PURGE DATA

PURGE VOLUME

24 GAL

58 GAL

87 GAL

116 GAL

145 GAL

TEMP, DEG C

5.8

4.2

pH, UNITS

7.31

7.64

SPECIFIC CONDUCTIVITY umhos/cm

609

513

15 GALLONS @ 12/3/91

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2			505	022801C
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			505	022801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		506	0203101C
CL TT08	YES	4 DEG C	500 ML POLY		507	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		508	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		309	510 511 0212301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		513	0128101C
DNT UW26	NO	4 DEG C	1 L AG		514	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* purge H2O containerized for VOC's
- used historical vol.

SIGNATURE: *ALC Smith / K*

RECEIVED BY: *Nancy E. Rota*

- PUMPED DRY @ ABOUT 10 GALLONS TOOK FIRST READINGS, WAITED 10 MIN AND TOOK SECOND READINGS. WAITED 10 MIN. AGAIN. ~~VERY POOR RECHARGE~~ (11-25-91)
- PUMPED 12.72 or 12.3.91
- SAMPLED ON 12-4-91 @ 0830

grd. elev. = 881.5

riser elev. = 885.77

GW elev. = 772.24

ABB ENVIRONMENTAL SERVICES, INC.

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8201C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-82-01C

JOB NUMBER

6853-04

SAMPLING DATE

11-8-91

LOCATION

ACTIVITY

START 0830

END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 0°-10° F

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.36 FT

PROTECTIVE CASING/WELL DIFF.

-0.52 FT

WELL DEPTH

141 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

111.53 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

109.69

HEIGHT OF WATER COLUMN

29.4 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

45 GAL/VOL

225 TOTAL GAL PURGED

(223)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR 0.7 PPM

WELL MOUTH 0.7 PPM

PURGE DATA

PURGE VOLUME

45 GAL

40 GAL

135 GAL

180 GAL

225 GAL

TEMP, DEG C

11.1

10.7

10.4

9.9

11.2

pH, UNITS

7.3

7.6

7.5

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

660

648

654

654

639

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly			
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG				
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> HAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*used historical volumes

SIGNATURE: Paul C. Smith / um

RECEIVED BY: Nancy E. Rofa

2nd. elev = 883.0

riser elev = 885.14

GW elev = 771.39

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PAGE 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8202A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-22-02A

JOB NUMBER

6853-04

SAMPLING DATE

12.4.91

LOCATION

ACTIVITY START 1500 END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 15°F

WATER LEVEL / WELL DATA

WELL DEPTH 119.2 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.03 FT

PROTECTIVE CASING/WELL DIFF.

-0.05 FT

WATER DEPTH 113.75 FT

☐ 0.16 GAL/FT (2 IN)
☒ 0.65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

25 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

111.75

HT OF

ER COLUMN

5.45 FT

X

125

TOTAL GAL PURGED

(125)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

☒ LARGE H2O CONTAINED?
☐ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.4 PPM

RGE DATA

GE VOLUME	@ 25 GAL	@ 20 GAL	@ 15 GAL	@ 10 GAL	@ 25 GAL
TEMP, DEG C	7.4	8.2	8.2	8.0	6.3
PH, UNITS	7.94	7.6	7.6	7.6	7.4
SPECIFIC CONDUCTIVITY umhos/cm	376	804	784	809	814

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2			515	022280
CR SS16	YES	HNO3 TO pH<2				
G SB03	YES	HNO3 TO pH<2				
B SD24	YES	HNO3 TO pH<2				
I SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			515	022280
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		516	022280
CL TT08	YES	4 DEG C	500 ML POLY		517	
SO4 TT08	YES	4 DEG C			518	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		519	022280
BN/A UM16	NO	4 DEG C	(2) 1 L AG		522	022280
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		524	022280
DNT UW26	NO	4 DEG C	1 L AG		525	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* p. 3e H2O contained for VOC's
- used historical volumes

SIGNATURE:

AKC SLL/AC

RECEIVED BY:

Nancy E. Rosta

grd. elev = 882.9

riser elev = 884.99

GW elev = 770.51

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER PBN8202B

SITE ID PBN-82-02B

SITE TYPE WELL

SAMPLING DATE 12.5.91

LOCATION ACTIVITY START 1430 END 1530 *

JOB NUMBER 6853-04

FILE NAME CGW

PROGRAM C

WEATHER Snow, 20°F

WATER LEVEL / WELL DATA

WELL DEPTH 131.2 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.22 FT

PROTECTIVE CASING/WELL DIFF. -0.4 FT

WATER DEPTH 114.42 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

26 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 112.30

HEIGHT OF WATER COLUMN 16.72 FT

130 TOTAL GAL PURGED

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
OTHER: CAP

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 1.0 PPM

WELL MOUTH 1.0 PPM

PURGE DATA

PURGE VOLUME	@ 26 GAL	@ 52 GAL	@ 78 GAL	@ 104 GAL	@ 130 GAL
TEMP, DEG C	9.0	9.1	9.3	9.4	9.2
pH, UNITS	7.2	7.3	7.3	7.3	7.4
SPECIFIC CONDUCTIVITY umhos/cm	621	593	620	609	617

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2	500 ml poly			
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C	500 ML POLY			
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
ONT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, Y/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, Y/NA:ICP)

* purge H2O containerized for DNT
- used historical volumes
* SAMPLES WERE COLLECTED @ 1630 - LABS ON
BOTTLES WERE NOT CHANGED

SIGNATURE: [Signature]
RECEIVED BY: Nancy E. Rota

grd elev = 882.9

static elev = 885.28

Gw elev = 771.48

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-82-02C
 LOCATION ACTIVITY START 1350 END 1630 ★

FIELD SAMPLING NUMBER PBN8202C
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 1259
 FILE NAME CGW
 WEATHER Snow, 20°F

WATER LEVEL / WELL DATA

WELL DEPTH 141.5 FT MEASURED
 WATER DEPTH 113.8 FT HISTORICAL
 HEIGHT OF WATER COLUMN 27.7 FT
 PURGE H2O CONTAINED? YES
 WELL MATERIAL PVC
 AMBIENT AIR 1.0 PPM
 WELL MOUTH 1.0 PPM
 TOP OF WELL TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 2.25 FT
 PROTECTIVE CASING/WELL DIFF. -1.10 FT
 WELL DIAMETER 2 INCH
 GROUNDWATER ELEVATION (BGS) 111.65
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 18 GAL/VOL
 90 TOTAL GAL PURGED (90)
 WELL INTEGRITY: PROT. CASING SECURE YES
 CONCRETE COLLAR INTACT YES
 WELL LOCKED YES
 OTHER: CAP

PURGE DATA

PURGE VOLUME	@ 18 GAL	@ 36 GAL	@ 54 GAL	@ 72 GAL	@ 90 GAL
TEMP, DEG C	25	25	25	9.7	9.1
PH, UNITS	7.5	7.4	7.4	7.5	7.5
SPECIFIC CONDUCTIVITY umhos/cm	563	553	542	556	524

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 EQUIPMENT ID
 ISCO #
 GRUNDEOS #
 2" 4" #
 DECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2	500 ml poly		241	042201C
NIT	YES	H2SO4 TO pH<2	500 ML POLY		242	
CL	YES	4 DEG C	500 ML POLY		243	
SO4	YES	4 DEG C	500 ML POLY		244	
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		245	042201C
BN/A	NO	4 DEG C	(2) 1 L AG		246	012211C
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG		350	012211C
DNT	NO	4 DEG C	1 L AG		251	
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* purge h2o containerized for DNTS:

- USED HISTORICAL VOLUMES

★ WELL DID NOT GO DRY AS ANTICIPATED, COLLECTED SAMPLES

@ 1500 - DID NOT CHANGE BOTTLE LABELS

SIGNATURE: Paul C. Smith LAB

RECEIVED BY: Nancy E. [Signature]

grd elev = 857.6

riser elev. = 859.94

GW elev. = 769.61

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN0203A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-82-03A

JOB NUMBER

6853-04

SAMPLING DATE

11-22-91

LOCATION

ACTIVITY

START 1300

END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

overcast, 30°S

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

2.20 FT

PROTECTIVE

0.08 FT

WELL DEPTH

95.9 FT

☐ MEASURED

☐ HISTORICAL

WATER DEPTH

90.33 FT

WELL

DIAMETER

☐ 2 INCH

☒ 4 INCH

☐ 6 INCH

GROUNDWATER

ELEVATION

(BGS)

88.21

HEIGHT OF

WATER COLUMN

5.0 FT

X

1.6 GAL/FT (2 IN)

1.65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

GAL/FT (IN)

13 GAL/VOL

65

TOTAL GAL PURGED

(63)

PURGE H2O CONTAINED?

☒ YES

☐ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR 1.8 PPM

WELL MOUTH 1.8 PPM

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER:

cap

YES

NO

N/A

PURGE DATA

PURGE VOLUME

@ 13 GAL

@ 24 GAL

@ 39 GAL

@ 42 GAL

@ 65 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.1

7.4

542

11.1

7.4

541

11.1

7.3

537

11.1

7.3

559

10.6

7.4

538

SAMPLE OBSERVATIONS

CLEAR

CLOUDY & F.RST

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☐

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA

NA

CD

CR

HG

PB

NI

BA

HARD

NIT

CL

SO4

ALK

TDS

TOC

NH3N2

VOC

BN/A

NG

NAM

DNT

TPH

USEPA 130.2

TFIO

TT08

TT08

USEPA 310.1

USEPA 160.1

USEPA 415.1

USEPA 350.2

UM17

UM16

99

UN06

UN26

USEPA 418.1

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

H2SO4 TO pH<2

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2

H2SO4 TO pH<2

HCL, 4 DEG C

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2

1 L POLY

500 ml poly

500 ML POLY

500 ML POLY

500 ML POLY

(3)40 ML VIAL

500 ML POLY

(3)40 ML VIAL

(2) 1 L AG

1 L AG

1 L AG

1 L AG

1 L AG

1 L GWM

SAMPLE

COLLECTED

253

254

255

256

257

258

259

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

0212301C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2o contained for VOC's

-used historical volumes

HANDLE OF BOTTOM SOUNDER (BROKE & FELL DOWN THE WELL.

SIGNATURE:

Rel. Smith

RECEIVED BY:

Nancy E. Roper

2120 = 357.6

2120 = 860.16

FW elev. = 769.56

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8203B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-82-03B

JOB NUMBER

6853-04

SAMPLING DATE

11/24/91

LOCATION

ACTIVITY

START 11/5/91 1430 END 11/5/91 1515

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, wind 20°F = 0° W.C.

WATER LEVEL / WELL DATA

WELL DEPTH 109.8 FT

☒ MEASURED
☐ HISTORICAL

☒

TOP OF WELL

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.1 FT

PROTECTIVE CASING/WELL DIFF.

-0.02 FT

WATER DEPTH 90.6 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

88.52

HEIGHT OF WATER COLUMN 19.2 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (1 IN)

12 GAL/VOL

60 TOTAL GAL PURGED

(59)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO
☒ ☐
☒ ☐
☒ ☐
☒ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 12 GAL

@ 24 GAL

@ 36 GAL

@ 48 GAL

@ 60 GAL

TEMP, DEG C

7.4

7.6

8.5

8.3

7.4

PH, UNITS

7.43

7.79

7.70

7.71

7.73

SPECIFIC CONDUCTIVITY umhos/cm

539

515

523

523

517

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒
☐
☐
☐
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOC's
- used historical volumes
- sample not collected until ~ 1630

SIGNATURE:

James E. Cate

RECEIVED BY:

Vanessa E. B...

ant elev = 773.0

riser elev = 874.74

GW elev = 769.20

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-82-04A
 LOCATION ACTIVITY START 0800 END 0830

FIELD SAMPLING NUMBER

PBN8204A

SITE TYPE

WELL

JOB NUMBER

6853-04

PROGRAM

C

PAGE 05

SAMPLING DATE

12-7-91

FILE NAME

CGW

WEATHER

Cloudy 40°F

WATER LEVEL / WELL DATA

WELL DEPTH 110.3 FT
 WATER DEPTH 105.54 FT

HEIGHT OF WATER COLUMN 4.74 FT

TOP OF WELL
 TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND)

1.85 FT

PROTECTIVE CASING/WELL DIFF.

FLUSH FT

MEASURED
 HISTORICAL

WELL DIAMETER

2 INCH
 4 INCH
 6 INCH

GROUNDWATER ELEVATION (BGS)

103.69

0.16 GAL/FT (2 IN)
 0.65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)

GAL/VOL

TOTAL GAL PURGED

10

WELL INTEGRITY:
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .6 PPM

WELL MOUTH .6 PPM

PURGE DATA

PURGE VOLUME	a 2 GAL	a GAL	a GAL	a GAL	a GAL
TEMP, DEG C	7.6				
pH, UNITS	7.8				
SPECIFIC CONDUCTIVITY umhos/cm					

SAMPLE OBSERVATIONS
☐ CLEAR
☒ CLOUDY
☒ COLORED Blue
☒ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☐

PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER

EQUIPMENT ID

ISCO #
 GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	12-9-91 526		0222501C
CL TT08	YES	4 DEG C	500 ML POLY	12-9-91 527		0222501C
SO4 TT08	YES	4 DEG C		12-9-91 528		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	12-9-91 529		
TDS USEPA 160.1	NO	4 DEG C		12-9-91		
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	NCL, 4 DEG C	(3)40 ML VIAL	12-9-91 530	531	0222501C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	533	534	0222501C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG	535		0222501C
DNT UW26	NO	4 DEG C	1 L AG	536		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,Py,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for DNT.

CONDUCTIVITY METER NOT WORKING

PURGED WITH BAILER - GOT ABOUT 2.5+ GALLONS OUT

SIGNATURE:

RECEIVED BY:

Nancy E. [Signature]

- COLLECTED Vials: ALK/TOX on 12-7-91 (0830) - well dry
 (0900) - 12-8-91 collected 2/3 of 1 L - very silty - well dry - DNT
 (1100) 12-9-91 collected 1 bailer from well - 500 ml to C1/50, - ~ 200 ml to Nit - well dry

and
AW = 875.0

rise
elev. = 875.48

GW
elev. = 767.11

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FBN2204C

PAGE

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-182-104C

JOB NUMBER

6853-04

SAMPLING DATE

11-22-91

LOCATION

ACTIVITY START 0715 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

overcast, 30's-40's

WATER LEVEL / WELL DATA

WELL DEPTH 130 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.78 FT

PROTECTIVE
CASING/WELL DIFF.

+0.03 FT

WATER DEPTH 106.37 FT

WELL
DIAMETER ☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

104.62

HEIGHT OF
WATER COLUMN 23.63 FT X

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

85

TOTAL GAL PURGED

22

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES
NO
NO
NO
NO

PURGE H2O CONTAINED?
☒ YES
☐ NO

WELL MATERIAL
☒ PVC
☐ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 0.6 PPM

PURGE DATA

PURGE VOLUME

@ 17 GAL

@ 34 GAL

@ 51 GAL

@ 68 GAL

@ 85 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

12.0

11.1

11.1

11.2

11.1

7.6

7.5

7.5

7.3

7.5

600

605

604

605

604

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒
☒
☒
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2	500 ml poly		
NIT	YES	H2SO4 TO pH<2	500 ML POLY		
CL	YES	4 DEG C	500 ML POLY		
SC4	YES	4 DEG C			
ALK	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	NO	4 DEG C	(2) 1 L AG		
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H2SO4 TO pH<2	1 L GUM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:LEP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:LEP)

*purge H2O containerized for VOC's
-used historical volumes

SIGNATURE:

RECEIVED BY:

Tracy E. Rofa

well above casing. Has lock but won't close all the way to lock it.
POOR RECHARGE

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 8205A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID PBN-82-05A

JOB NUMBER 6853-04

SAMPLING DATE 12-5-91

LOCATION ACTIVITY START 1030 END 1100

PROGRAM C

FILE NAME CGW

WEATHER Snow, 10°F

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.5 FT

PROTECTIVE CASING/WELL DIFF. -1.23 FT

WELL DEPTH 112.2 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 108.8 FT

WELL DIAMETER ☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

106.59

HEIGHT OF WATER COLUMN 3.34 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

6

TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: CAS

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 1.0 PPM

WELL MOUTH 1.3 PPM

PURGE DATA

PURGE VOLUME

PURGE VOLUME	2 GAL	6 GAL	GAL	GAL	GAL
TEMP, DEG C	7.0	7.0			
pH, UNITS	8.98	8.1			
SPECIFIC CONDUCTIVITY umhos/cm	72.2	804			

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER 120 PCS

EQUIPMENT ID
ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED
1 L POLY

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly					
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY					
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY					
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C						
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY					
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C						
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL					
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY					
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL					
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG					
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/> DNT	UM26	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM					

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOC's
Purged to Bailer on 12-4-91 (dry)

SIGNATURE: *Bill Smith*

RECEIVED BY: *Nancy E. Rota*

917
2110 = 875.3

2100 = 877.63

9100 = 767.50

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN82205B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-82-05B

JOB NUMBER

6853-04

SAMPLING DATE

12-5-91

LOCATION

ACTIVITY

START 1115

END 1145

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy, 10°F

WATER LEVEL / WELL DATA

WELL DEPTH

122.4 FT

MEASURED

HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

2.0

FT

PROTECTIVE

CASING/WELL DIFF.

-0.35

WATER DEPTH

108.16 FT

WELL DIAMETER

2 INCH

4 INCH

6 INCH

GROUNDWATER

ELEVATION

106.51

HEIGHT OF

WATER COLUMN

8.84 FT

0.16 GAL/FT (2 IN)

0.65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

0.16 GAL/FT (2 IN)

GAL/VOL

30.0 TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CAP

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

1.1 C

PPM

WELL MOUTH

1.1 C

PPM

PURGE DATA

PURGE VOLUME

@ 22 GAL

@ 30 GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

2.3

5.9

PH, UNITS

5.65

7.63

SPECIFIC CONDUCTIVITY umhos/cm

907

969

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O contained in for VOC's
PURGED DRY @ 30 CALLOUS ON 12-4-91

SIGNATURE:

ALCS/LL/NC

RECEIVED BY:

Nancy E. R

INTL = 875.8

ASPER elev. = 878.16

GW elev. = 769.75

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8205C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-82-05C

JOB NUMBER

6853-04

SAMPLING DATE

12.6.91

LOCATION

ACTIVITY

START 0930 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY 20° BREEZY

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.12 FT

PROTECTIVE CASING/WELL DIFF.

FLUSH FT

WELL DEPTH 133.5 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 108.43 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)=
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

18 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

106.31

HEIGHT OF WATER COLUMN 25.07 FT

90 TOTAL GAL PURGED 90

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR .8 PPM

WELL MOUTH .8 PPM

PURGE DATA

PURGE VOLUME

	@ 18 GAL	@ 36 GAL	@ 54 GAL	@ 72 GAL	@ 90 GAL
TEMP, DEG C	6.8	5.6	8.6	8.6	8.6
PH, UNITS	7.88	7.5	7.4	7.4	7.4
SPECIFIC CONDUCTIVITY umhos/cm	731	729	736	730	733

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		337	042801C
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		338	
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		339	
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		340	
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		341	021230C
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG		344	028101C
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG		346	0128101C
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG		347	
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLM			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for DNT
-used historical volumes

SIGNATURE: R. S. H. / A. C.

RECEIVED BY: Nancy E. Rofia

grd. elev. = 915.5 riser elev. = 917.51

GW elev. = 771.79

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PAGE 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER 1007101

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11-7-91

SITE ID 100-91-01

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0830 END 1000

PROGRAM C

WEATHER Sunny, 10-10 F

WATER LEVEL / WELL DATA

☒ TOP OF WELL ☐ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 2.12 FT PROTECTIVE CASING/WELL DIFF. -0.21 FT

WELL DEPTH 152 FT ☒ MEASURED ☐ HISTORICAL

WATER DEPTH 145.72 FT

WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH GROUNDWATER ELEVATION (BGS) 143.81

HEIGHT OF WATER COLUMN 6.28 FT x ☐ .16 GAL/FT (2 IN) ☐ .65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) ☐ GAL/FT (IN)

12.4 GAL/VOL 63.0 TOTAL GAL PURGED 62

PURGE H2O CONTAINED? ☐ YES ☒ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR 0.6 PPM WELL MOUTH 0.6 PPM

WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER:

PURGE DATA

PUMP RATE @ 2.0 GAL/MIN

PURGE VOLUME	@ 12 GAL	@ 24 GAL	@ 36 GAL	@ 48 GAL	@ 60 GAL
TEMP, DEG C	10.5	10.3	10.3	10.1	9.9
PH, UNITS	8.5	7.9	7.8	7.7	7.7
SPECIFIC CONDUCTIVITY umhos/cm	648	654	652	645	640

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

(SAMPLES COLLECTED = 10.0 L @ 12)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO # _____
SUBMERSIBLE PUMP ☐ GROUNDED# _____
BAILER ☐ 2" ☐ 4" # _____
PVC/SILICON TUBING ☐ ☐ 2" ☐ 4" # _____
IN-LINE/DISPOSABLE FILTER _____
OTHER _____

DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED _____

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		61 / / / /
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			61 / / / / 0428101C
CA SS16	YES	HNO3 TO pH<2			/ / / /
NA SS16	YES	HNO3 TO pH<2			/ / / /
CD SS16	YES	HNO3 TO pH<2			/ / / /
CR SS16	YES	HNO3 TO pH<2			/ / / /
HG SB03	YES	HNO3 TO pH<2			/ / / /
PB SD24	YES	HNO3 TO pH<2			/ / / /
NI SS16	YES	HNO3 TO pH<2			/ / / /
BA SS16	YES	HNO3 TO pH<2			/ / / /
HARD USEPA 130.2	YES	HNO3 TO pH<2			/ / / /
NIT TFIOT 100 (M)	YES	HNO3 TO pH<2	500 ML POLY		61 / / / / 0428101C
CL TT08	YES	4 DEG C	500 ML POLY		62 / / / / 0703101C
SO4 TT08	YES	4 DEG C	500 ML POLY		63 / / / /
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		64 / / / /
TDS USEPA 160.1	NO	4 DEG C			/ / / /
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		/ / / /
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		/ / / /
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		65 / 66 / 67 / 0212301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		68 / 69 / / / 0428101C
NG 99	NO	4 DEG C	1 L AG		/ / / /
NAM UN06	NO	4 DEG C	1 L AG		/ / / /
DNT UW26	NO	4 DEG C	1 L AG		70 / / / / 0128101C
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		71 / / / /

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*see attached for volume calculation
HAD DIFFICULTY INITIALLY DUE TO THE WATER BEING SO DEEP FOR THE CABLE TO REACH. JUST BARELY ABLE TO PUMP.

SIGNATURE: R.C. Sath / m
RECEIVED BY: Nancy E. Rana

*sample was preserved w/ H2SO4

std. elev. = 915.7

std. elev. = 917.86

GW elev. = 771.73

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

L O M 89 01

PAGE 01

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID L O M - 89 - 01

JOB NUMBER 6853-04

SAMPLING DATE 11-23-91

LOCATION ACTIVITY START 1415 END 1530

PROGRAM C

FILE NAME CGW

WEATHER Snowy/rain

WATER LEVEL / WELL DATA

WELL DEPTH 157.3 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND)

1.47 FT

PROTECTIVE CASING/WELL DIFF. -0.33 FT

WATER DEPTH 146.08 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

19.3 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 144.94

HEIGHT OF WATER COLUMN 11.62 FT

95 TOTAL GAL PURGED

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
OTHER: CWP

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 19 GAL

@ 38 GAL

@ 57 GAL

@ 76 GAL

@ 95 GAL

TEMP, DEG C

9.3

10.4

9.7

9.7

9.8

pH, UNITS

7.65

7.18

7.22

7.25

7.28

SPECIFIC CONDUCTIVITY umhos/cm

1623

1624

790

1631

1645

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

☒ POTABLE WATER

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

SUBMERSIBLE PUMP

GRUNDEOS#

☐ LIQUINOX

FLOAT ACTIVATED

BAILER

2" 4" #

☐ STEAM CLEANING

PRESSURE TRANSDUCER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2			
USEPA 130.2	YES	HNO3 TO pH<2			
TF 10	YES	H2SO4 TO pH<2	500 ML POLY		
TT08	YES	4 DEG C	500 ML POLY		
SO4	YES	4 DEG C	500 ML POLY		
ALK	NO	4 DEG C	500 ML POLY		
USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
USEPA 160.1	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2 500 ML POLY			
USEPA 415.1	NO	H2SO4 TO pH<2 500 ML POLY			
USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			
UM16	NO	4 DEG C (2) 1 L AG			
99	NO	4 DEG C	1 L AG		
UN06	NO	4 DEG C	1 L AG		
UN26	NO	4 DEG C	1 L AG		
USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOC's
-see calculations for purge volumes

SIGNATURE: R. C. Smith / inc

RECEIVED BY: Nancy E

2nd Elev. = 918.9 riser elev. = 921.13 GW elev. = 771.35

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

L O N 8 9 0 2 B

PAGE 1 OF 1

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID L O N - 8 9 - 0 2 B

JOB NUMBER 6853-04

SAMPLING DATE 127.91

LOCATION ACTIVITY START 1045 END 1145

PROGRAM C

FILE NAME CGW

WEATHER Clear, 40s

WATER LEVEL / WELL DATA

WELL DEPTH 200.6 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.3 FT

PROTECTIVE CASING/WELL DIFF. -1.9 FT

WATER DEPTH 149.78 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 147.67

HEIGHT OF WATER COLUMN 50.82 FT
X ☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

50 GAL/VOL

250 TOTAL GAL PURGED

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
OTHER: cap

PURGE H2O CONTAINED? ☐ YES ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR .5 PPM

WELL MOUTH .6 PPM

PURGE DATA

PURGE VOLUME	@ 50 GAL	@ 100 GAL	@ 150 GAL	@ 200 GAL	@ 250 GAL
TEMP, DEG C	11.2	11.4	11.5	11.6	11.7
pH, UNITS	7.7	7.6	7.5	7.5	7.5
SPECIFIC CONDUCTIVITY umhos/cm	541	519	517	519	516

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☐ EQUIPMENT ID ISCO #
SUBMERSIBLE PUMP ☐ GRUNDFOS #
BAILER ☒ 2" ☐ 4" #
PVC/SILICON TUBING ☐
IN-LINE/DISPOSABLE FILTER ☐
OTHER ☐

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	25 / 02230.C
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NI TFI0	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	25 / 02230.C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	26 / 04230.C
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>	
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>	
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>	
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	29 / 30 / 31 / 02230.C
BN/A UM16	NO	4 DEG C (2) 1 L AG		<input checked="" type="checkbox"/>	32 / 33 / 02230.C
NG 99	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>	
NAM UN06	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>	
DNT UW26	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>	34 / 02230.C
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM		<input checked="" type="checkbox"/>	35 /

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-see attached for volumes

SIGNATURE: R. C. Smith

RECEIVED BY: Nancy E. R.

AW = 919.2

MSR elev. = 922.14

GW elev. = 771.14

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

LON8903A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12.7.91

SITE ID LON-89-03A

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1200 END 1300

PROGRAM C

WEATHER clear, 40's

WATER LEVEL / WELL DATA

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.81 FT

PROTECTIVE
CASING/WELL DIFF.

-1.16 FT

WELL DEPTH 160.0 FT

MEASURED
HISTORICAL

WATER DEPTH 151.00 FT

WELL
DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

148.35

HEIGHT OF
WATER COLUMN 9.6 FT X .16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)=
1.5 GAL/FT (6 IN)
GAL/FT (IN)

16 GAL/VOL

80 TOTAL GAL PURGED (160)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
[] [] []
[] [] []
[] [] []
[] [] []

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR .4 PPM

WELL MOUTH .4 PPM

PURGE DATA

PURGE VOLUME

@ 16 GAL

@ 32 GAL

@ 48 GAL

@ 64 GAL

@ 80 GAL

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.7
7.7
505

11.7
7.5
506

11.7
7.4
505

11.6
7.4
502

11.7
7.5
504

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

37

0222301C

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

0222301C

NIT

TFIO

YES

H2SO4 TO pH<2

500 ML POLY

37

0422301C

CL

TT08

YES

4 DEG C

500 ML POLY

37

SO4

TT08

YES

4 DEG C

500 ML POLY

40

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

41

0212301C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

44

0222301C

NG

99

NO

4 DEG C

1 L AG

46

0122301C

NAM

UN06

NO

4 DEG C

1 L AG

47

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* purge H2O contained/ized for VOC's
- used historical volume @ see attached for volume

SIGNATURE: RALCS tl/adc

RECEIVED BY: Nancy E. Rofa

3rd
elev. = 919.5

river
elev. = 921.99

GW
elev. = 771.33

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PAGE 01

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

LON8903B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID LON-89-03B

JOB NUMBER 6853-04

SAMPLING DATE 12791

LOCATION ACTIVITY START 1315 END 1415

PROGRAM C

FILE NAME CGW

WEATHER clear, 40S

WATER LEVEL / WELL DATA

WELL DEPTH 200.6 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.46 FT

PROTECTIVE CASING/WELL DIFF. - .20 FT

WATER DEPTH 150.66 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

148.40

HEIGHT OF WATER COLUMN 49.94 FT X
☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

55 GAL/VOL

275 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: cap

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR .4 PPM

WELL MOUTH .4 PPM

PURGE DATA

PURGE VOLUME

@ 55 GAL

@ 110 GAL

@ 165 GAL

@ 220 GAL

@ 275 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.4

11.4

11.3

11.2

11.4

7.6

7.6

7.6

7.6

7.5

549

547

546

548

562

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

GRUNDFOS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

☐ IN-LINE DISPOSABLE FILTER
☐ OTHER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☒ PP METALS (SPECIFIED BELOW)

YES

HNO3 TO PH<2

1 L POLY

☒

☒ TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO PH<2

☐

CA

SS16

YES

HNO3 TO PH<2

☐

NA

SS16

YES

HNO3 TO PH<2

☐

CD

SS16

YES

HNO3 TO PH<2

☐

CR

SS16

YES

HNO3 TO PH<2

☐

HG

SB03

YES

HNO3 TO PH<2

☐

PB

SD24

YES

HNO3 TO PH<2

☐

NI

SS16

YES

HNO3 TO PH<2

☐

BA

SS16

YES

HNO3 TO PH<2

☐

HARD

USEPA 130.2

YES

HNO3 TO PH<2

☐

NIT

TF10

YES

H2SO4 TO PH<2

500 ML POLY

☐

CL

TT08

YES

4 DEG C

500 ML POLY

☐

SO4

TT08

YES

4 DEG C

500 ML POLY

☐

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☐

TDS

USEPA 160.1

NO

4 DEG C

☐

TOC

USEPA 415.1

NO

H2SO4 TO PH<2

(3)40 ML VIAL

☐

NH3N2

USEPA 350.2

NO

H2SO4 TO PH<2

500 ML POLY

☐

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☐

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☐

NG

99

NO

4 DEG C

1 L AG

☐

NAM

UN06

NO

4 DEG C

1 L AG

☐

DNT

UW26

NO

4 DEG C

1 L AG

☐

TPH

USEPA 418.1

NO

H2SO4 TO PH<2

1 L GWM

☐

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* purge H2O contained for voc's (M)
- See attached for volumes

SIGNATURE:

RECEIVED BY:

Signature: [Signature]
Received by: Nancy E. [Signature]

SPN = 821 b riser elev. = 824.03 GW elev. = 761.76

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN9102D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SPN-91-02D

JOB NUMBER

6853-04

SAMPLING DATE

12-13-91

LOCATION

ACTIVITY

START 1015

END 1200

PROGRAM

C

FILE NAME

CGW

WEATHER

Clear & Sunny
30"

WATER LEVEL / WELL DATA

WELL DEPTH 184.77 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.52 FT

PROTECTIVE CASING/WELL DIFF.

-0.09 FT

WATER DEPTH 62.27 FT

WELL DIAMETER

☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

59.84

HEIGHT OF WATER COLUMN 122.50 FT X

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

107 GAL/VOL

535

TOTAL GAL PURGED

530

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .5 PPM

WELL MOUTH .5 PPM

PURGE DATA

PURGE VOLUME

2107 GAL

2214 GAL

2321 GAL

2428 GAL

2535 GAL

TEMP, DEG C

9.6

9.9

9.8

9.8

9.7

PH, UNITS

7.6

7.5

7.7

7.6

7.6

SPECIFIC CONDUCTIVITY umhos/cm

385

390

386

386

389

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ (2)
☒
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☒

1324

/

/

/

/

/

0225501C

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☒

1324

/

/

/

/

/

0225501C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1324

/

/

/

/

/

0225501C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1324

/

/

/

/

/

0225501C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1324

/

/

/

/

/

0225501C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1324

/

/

/

/

/

0225501C

HG

SB03

YES

HNO3 TO pH<2

1 L AG

☒

1324

/

/

/

/

/

0225501C

PB

SD24

YES

HNO3 TO pH<2

1 L AG

☒

1324

/

/

/

/

/

0225501C

NI

SS16

YES

HNO3 TO pH<2

1 L AG

☒

1324

/

/

/

/

/

0225501C

BA

SS16

YES

HNO3 TO pH<2

1 L AG

☒

1324

/

/

/

/

/

0225501C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

☒

1324

/

/

/

/

/

0225501C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

1325

/

/

/

/

/

0703101C

CL

TT08

YES

4 DEG C

500 ML POLY

☒

1326

/

/

/

/

/

0225501C

SO4

TT08

YES

4 DEG C

500 ML POLY

☒

1326

/

/

/

/

/

0225501C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☐

1327

/

/

/

/

/

0225501C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

☐

1327

/

/

/

/

/

0225501C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☐

1327

/

/

/

/

/

0225501C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☐

1327

/

/

/

/

/

0225501C

ord. elev. = 816.7

riser elev. = 819.36

GW elev. = 761.02

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

SPN91030

SITE ID

SPN-91-030

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

12-10-91

LOCATION ACTIVITY

START 0930 END 1200

PROGRAM

C

FILE NAME

CGW

WEATHER

40° Sunny

WATER LEVEL / WELL DATA

WELL DEPTH 203.28 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.30 FT

PROTECTIVE CASING/WELL DIFF.

-1.13 FT

WATER DEPTH 58.34 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)

124 GAL/VOL

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

56.17

HEIGHT OF WATER COLUMN 144.94 FT

X

TOTAL GAL PURGED

(621)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

124 GAL

246 GAL

372 GAL

496 GAL

620 GAL

TEMP, DEG C

9.4

9.3

9.3

9.5

9.4

PH, UNITS

7.6

7.6

7.6

7.7

7.6

SPECIFIC CONDUCTIVITY umhos/cm

664

663

667

664

664

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒
☐ ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

PP METALS (SPECIFIED BELOW)
TAL METALS (SPECIFIED BELOW)
CA SS16
NA SS16
CO SS16
CR SS16
HG SB03
PB SD24
NI SS16
BA SS16
HARD USEPA 130.2
NIT TF10
CL TT08
SO4 TT08
ALK USEPA 310.1
TDS USEPA 160.1
TOC USEPA 415.1
NH3N2 USEPA 350.2
VOC UM17
BN/A UM16
NG 99
NAM UN06
DNT UN26
TPH USEPA 418.1

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

ANALYTICAL PARAMETERS	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			1336	022280.C
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CO	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2			1336	022280.C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1337	070310.C
CL	TT08	YES	4 DEG C	500 ML POLY		1338	
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1339	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	NCL, 4 DEG C	(3)40 ML VIAL		1340	021230.C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		1343	022810.C
NG	99	NO	4 DEG C	1 L AG		1345	
NAM	UN06	NO	4 DEG C	1 L AG		1346	
DNT	UN26	NO	4 DEG C	1 L AG		1347	
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,HG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: *Patricia H. Hise*

RECEIVED BY: *Nancy E. R.*

grd elev. = 800.8

riser elev. = 800.58

GW elev. = 761.38

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FIELD DATA RECORD - GROUNDWATER

PROJECT	USATHAMA-BAAP	FIELD SAMPLING NUMBER	SPN9104D
SITE ID	SPN-91-04D	SITE TYPE	WELL
LOCATION ACTIVITY	START 0800 END 1130	JOB NUMBER	6853-04
		PROGRAM	C
		SAMPLING DATE	12.13.91
		FILE NAME	CGW
		WEATHER	Sunny 75°

WATER LEVEL / WELL DATA

WELL DEPTH	204 FT	MEASURED	<input checked="" type="checkbox"/>	TOP OF WELL	<input checked="" type="checkbox"/>	PROTECTIVE CASING STICK-UP (FROM GROUND)	2.0 FT	PROTECTIVE CASING/WELL DIFF.	-0.34 FT
WATER DEPTH	40.70 FT	HISTORICAL	<input type="checkbox"/>						
HEIGHT OF WATER COLUMN	16.3 FT	0.36 GAL/FT (2 IN)	<input type="checkbox"/>	155	GAL/VOL				
		0.65 GAL/FT (4 IN)	<input type="checkbox"/>	775	TOTAL GAL PURGED	(774)			
		1.5 GAL/FT (6 IN)	<input type="checkbox"/>						
PURGE H2O CONTAINED?	<input type="checkbox"/> YES <input type="checkbox"/> NO	WELL MATERIAL	<input type="checkbox"/> PVC <input type="checkbox"/> SS	AMBIENT AIR	<input type="checkbox"/> PPM	WELL MOUTH	<input type="checkbox"/> PPM	WELL INTEGRITY:	
								PROT. CASING SECURE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
								CONCRETE COLLAR INTACT	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
								WELL LOCKED	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
								OTHER:	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

PURGE DATA

PURGE VOLUME	0.155 GAL	0.310 GAL	0.465 GAL	0.610 GAL	0.775 GAL
TEMP, DEG C	9.4	9.4	9.0	7.3	8.7
PH, UNITS	7.3	7.5	7.7	7.6	7.6
SPECIFIC CONDUCTIVITY umhos/cm	467	452	450	455	445

SAMPLE OBSERVATIONS

<input checked="" type="checkbox"/>	CLEAR
<input type="checkbox"/>	CLOUDY
<input type="checkbox"/>	COLOR
<input type="checkbox"/>	TURBID
<input type="checkbox"/>	ODOR
<input type="checkbox"/>	OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING	SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE
<input type="checkbox"/>	<input type="checkbox"/>	SUBMERSIBLE PUMP	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED
<input type="checkbox"/>	<input type="checkbox"/>	BAILER	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER
<input type="checkbox"/>	<input type="checkbox"/>	PVC/SILICON TUBING		
<input type="checkbox"/>	<input type="checkbox"/>	IN-LINE/DISPOSABLE FILTER		
<input type="checkbox"/>	<input type="checkbox"/>	OTHER		
		NUMBER OF FILTERS USED		

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1348	022280.C
CA	SS16	HNO3 TO pH<2				
NA	SS16	HNO3 TO pH<2				
CD	SS16	HNO3 TO pH<2				
CR	SS16	HNO3 TO pH<2				
HG	SB03	HNO3 TO pH<2				
PB	SD24	HNO3 TO pH<2				
NI	SS16	HNO3 TO pH<2				
BA	SS16	HNO3 TO pH<2				
HARD	USEPA 130.2	HNO3 TO pH<2			1348	022280.C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY		1349	070310.C
CL	TT08	4 DEG C	500 ML POLY		1350	
SO4	TT08	4 DEG C	500 ML POLY		1351	
ALK	USEPA 310.1	4 DEG C	500 ML POLY		1352	
TDS	USEPA 160.1	4 DEG C			1353	
TOC	USEPA 415.1	H2SO4 TO pH<2	(3)40 ML VIAL		1354	
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY		1355	
VOC	UM17	HCL, 4 DEG C	(3)40 ML VIAL		1356	
BN/A	UM16	4 DEG C	(2) 1 L AG		1357	
NG	99	4 DEG C	1 L AG		1358	
NAM	UN06	4 DEG C	1 L AG		1359	
DNT	UN26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SB24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: *[Signature]*

RECEIVED BY: *Nancy E. Roka*

31
 155
 5 155
 774

and
elev = 837.8

rise
elev = 830.04

GW
elev = 761.84

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID SPN-89-01C

JOB NUMBER 6853-04

SAMPLING DATE 12-10-91

LOCATION ACTIVITY START 0745 END 0920

PROGRAM C

FILE NAME CGW

WEATHER 2004 40°

WATER LEVEL / WELL DATA

WELL DEPTH 121.7 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.47 FT

PROTECTIVE CASING/WELL DIFF. -0.27 FT

WATER DEPTH 68.20 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 66.00

HEIGHT OF WATER COLUMN 53.5 FT X ☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

46 GAL/VOL

230 TOTAL GAL PURGED

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
OTHER: cap

PURGE H2O CONTAINED? ☐ YES ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

46 GAL

12 GAL

138 GAL

104 GAL

230 GAL

TEMP, DEG C

8.6

9.1

9.2

9.3

9.3

CH, UNITS

7.5

7.6

7.6

7.5

7.5

CIFIC CONDUCTIVITY umhos/cm

639

640

639

639

641

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

SUBMERSIBLE PUMP

GRUNDFOS#

BAILER

☐ 2" ☐ 4" #

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1204	022280C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1204	022280C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1205	022280C
CL TT08	YES	4 DEG C	500 ML POLY		1206	022280C
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1207	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	MCL, 4 DEG C (3)40 ML VIAL			1208	022280C
BN/A UM16	NO	4 DEG C (2) 1 L AG			1211	022280C
NG 99	NO	4 DEG C 1 L AG			1213	
NAM UN06	NO	4 DEG C 1 L AG			1214	
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM			1215	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-- see attached for volumes

SIGNATURE: Paul C. H. HBS

RECEIVED BY: Nancy E. HBS

grid. = 820.8 riser = 823.67 GW = 761.74
elev. = 820.8 elev. = 823.67 elev. = 761.74

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN8702A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SPN-89-02A

JOB NUMBER

6853-04

SAMPLING DATE 11-19-91

LOCATION

ACTIVITY

START 1100

END 1215

PROGRAM

C

FILE NAME

CGW

WEATHER

overcast, 50's

WATER LEVEL / WELL DATA

WELL DEPTH

73 ± FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.45 FT

PROTECTIVE
CASING/WELL DIFF.

-.10 FT

WATER DEPTH

61.93 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

59.58

HEIGHT OF

WATER COLUMN

11 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

31 GAL/VOL

155

TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .02 PPM

WELL MOUTH .02 PPM

PURGE DATA

PURGE VOLUME

231 GAL

242 GAL

273 GAL

2124 GAL

2155 GAL

TEMP, DEG C

9.7

9.5

9.6

9.7

9.6

PH, UNITS

7.2

7.3

7.3

7.3

7.2

SPECIFIC CONDUCTIVITY umhos/cm

1011

1002

1011

998

1002

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

HG

S803

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

1216

5222601C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

1216

5222601C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

1217

0423101C

CL

TT08

YES

4 DEG C

500 ML POLY

1218

0423101C

SO4

TT08

YES

4 DEG C

500 ML POLY

1219

0423101C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

1220

022301C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

1221

022301C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

1222

022301C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

1223

022301C

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

1224

022301C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

1225

022301C

NG

99

NO

4 DEG C

1 L AG

1226

022301C

NAM

UN06

NO

4 DEG C

1 L AG

1227

022301C

DNT

UN26

NO

4 DEG C

1 L AG

1228

022301C

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GUM

1229

022301C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

*used historical volumes

SIGNATURE: *Paul G. Smith*

RECEIVED BY: *Nancy E. Potha*

grd elev = 820.3

riser elev = 823.53

GW elev = 761.75

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

3PN18902B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 3PN-89-02B

JOB NUMBER 6853-04

SAMPLING DATE 11-12-91

LOCATION ACTIVITY START 1245 END 1445

PROGRAM C

FILE NAME CGW

WEATHER OVERCAST, 50°S

WATER LEVEL / WELL DATA

WELL DEPTH 100.5 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.80 FT

PROTECTIVE
CASING/WELL DIFF.

-0.15 FT

WATER DEPTH 61.78 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

35 GAL/VOL

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

59.13

HEIGHT OF
WATER COLUMN 38.72 FT

175 TOTAL GAL PURGED

173

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
[] [] []
[] [] []
[] [] []
[] [] []

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME	@ 35 GAL	@ 75 GAL	@ 105 GAL	@ 140 GAL	@ 175 GAL
TEMP, DEG C	9.6	9.6	9.5	9.5	9.5
pH, UNITS	7.8	7.8	7.8	7.8	7.8
SPECIFIC CONDUCTIVITY umhos/cm	640	646	646	646	644

SAMPLE OBSERVATIONS
[] CLEAR
[] CLOUDY
[] COLORED
[] TURBID
[] ODOR
[] OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	[]	1237	0222801C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		[]		
CA SS16	YES	HNO3 TO pH<2		[]		
NA SS16	YES	HNO3 TO pH<2		[]		
CD SS16	YES	HNO3 TO pH<2		[]		
CR SS16	YES	HNO3 TO pH<2		[]		
HG SB03	YES	HNO3 TO pH<2		[]		
PB SD24	YES	HNO3 TO pH<2		[]		
NI SS16	YES	HNO3 TO pH<2		[]		
BA SS16	YES	HNO3 TO pH<2		[]		
HARD USEPA 130.2	YES	HNO3 TO pH<2		[]	1228	0222801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	[]	1239	0422801C
CL TT08	YES	4 DEG C	500 ML POLY	[]	1230	
SO4 TT08	YES	4 DEG C		[]		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	[]	1231	
TDS USEPA 160.1	NO	4 DEG C		[]		
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL		[]		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY		[]		
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		[]	1232	0212301C
BN/A UM16	NO	4 DEG C (2) 1 L AG		[]	1235	01232101C
NG 99	NO	4 DEG C	1 L AG	[]	1237	
NAM UN06	NO	4 DEG C	1 L AG	[]	1238	
DNT UW26	NO	4 DEG C	1 L AG	[]	1239	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	[]		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:IC)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:IC)

*purge H2O contained for VOC's
-used historical volumes

SIGNATURE:

RECEIVED BY:

Nancy E. P.

air elev = 820.0 riser elev = 822.60 GW elev = 761.70

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN8902C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11-17-91

SITE ID SPN-89-02C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION

PROGRAM C

WEATHER Sunny, 50° S

ACTIVITY START 1500 END 1630

WATER LEVEL / WELL DATA

WELL DEPTH 132.75 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.3 FT

PROTECTIVE
CASING/WELL DIFF. -0.11 FT

WATER DEPTH 60.90 FT

WELL
DIAMETER 4 INCH

GROUNDWATER
ELEVATION (BGS) 63.58.71

HEIGHT OF
WATER COLUMN 71.85 FT

1.6 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
52 GAL/VOL
260 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
X
X
X

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

258 GAL 104 GAL 156 GAL 200 GAL 260 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.7 9.5 9.4 9.3 9.2
7.8 7.8 7.8 7.8 7.8
660 1058 658 654 654

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY					
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
CA	SS16	YES	HNO3 TO pH<2						
NA	SS16	YES	HNO3 TO pH<2						
CD	SS16	YES	HNO3 TO pH<2						
CR	SS16	YES	HNO3 TO pH<2						
HG	SB03	YES	HNO3 TO pH<2						
PB	SD24	YES	HNO3 TO pH<2						
NI	SS16	YES	HNO3 TO pH<2						
BA	SS16	YES	HNO3 TO pH<2						
HARD	USEPA 130.2	YES	HNO3 TO pH<2						
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY					
CL	TT08	YES	4 DEG C	500 ML POLY					
SO4	TT08	YES	4 DEG C						
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY					
TDS	USEPA 160.1	NO	4 DEG C						
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL					
NH342	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY					
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL					
BN/A	UM16	NO	4 DEG C	(2) 1 L AG					
NG	99	NO	4 DEG C	1 L AG					
NAM	UN06	NO	4 DEG C	1 L AG					
DNT	UN26	NO	4 DEG C	1 L AG					
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM					

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOC's
-used historical volumes

SIGNATURE: KRC S. Miller

RECEIVED BY: Nancy E. Rofa

and elev = 815.1 riser elev = 818.09 GW elev = 762.13

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN8903B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID SPN-89-03B

JOB NUMBER 6853-04

SAMPLING DATE 12/10/91

LOCATION

ACTIVITY START 0930 END 1100

PROGRAM C

FILE NAME CGW

WEATHER 34-44 40°

WATER LEVEL / WELL DATA

WELL DEPTH 96.49 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.94 FT

PROTECTIVE CASING/WELL DIFF. -1.13 FT

WATER DEPTH 55.94 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 53.15

HEIGHT OF WATER COLUMN 40.53 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

37.5 GAL/VOL

180 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: CAP

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 37.5 GAL

@ 75 GAL

@ 112.5 GAL

@ 150 GAL

@ 187.5 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.1

7.6

630

9.1

7.6

631

9.1

7.6

635

9.3

7.6

630

9.3

7.5

631

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

RECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA SS16

NA SS16

CD SS16

CR SS16

HG SB03

PB SD24

NI SS16

BA SS16

HARD USEPA 130.2

NIT TF10

CL TT08

SO4 TT08

ALK USEPA 310.1

TDS USEPA 160.1

TOC USEPA 415.1

NH3N2 USEPA 350.2

VOC UM17

BN/A UM16

NG 99

NAM UN06

DNT UW26

TPH USEPA 418.1

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

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1276

1277

1278

1279

1280

1281

1282

1283

1284

1285

1286

1287

1288

1289

1290

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* purge H2O containerized for DNT
- see attached for volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

ord
elev. = 815.3

riser
elev. = 813.25

GW
elev. = 762.09

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

SPN8903C

SITE ID SPN-89-03C

SITE TYPE WELL

JOB NUMBER 6853-04

SAMPLING DATE 11-20-71

LOCATION ACTIVITY START 0945 END 1130

PROGRAM C

FILE NAME CGW

WEATHER Sunny, 40's-50's

WATER LEVEL / WELL DATA

WELL DEPTH 130.7 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.15 FT

PROTECTIVE CASING/WELL DIFF.

-0.51 FT

WATER DEPTH 56.16 FT

WELL DIAMETER

☐ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

53.52

HEIGHT OF WATER COLUMN 74.04 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

55 GAL/VOL

275 TOTAL GAL PURGED

(276)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CCF

YES ☒ NO ☐ N/A ☐

PURGE H2O CONTAINED? YES ☒ NO ☐

WELL MATERIAL ☐ PVC ☐ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 0.6 PPM

PURGE DATA

PURGE VOLUME

@ 55 GAL

@ 110 GAL

@ 165 GAL

@ 220 GAL

@ 275 GAL

TEMP, DEG C

9.7

9.9

9.9

10.1

10.1

pH, UNITS

7.4

7.3

7.3

7.3

7.4

SPECIFIC CONDUCTIVITY umhos/cm

643

643

643

643

643

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

HG

S803

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

1 L POLY

1264

1265

1266

0222801C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

1264

1265

1266

0428101C

CL

TT08

YES

4 DEG C

500 ML POLY

1264

1265

1266

0428101C

SO4

TT08

YES

4 DEG C

500 ML POLY

1264

1265

1266

0428101C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

1264

1265

1266

0428101C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

1264

1265

1266

0428101C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

1264

1265

1266

0428101C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

1264

1265

1266

0428101C

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

1264

1265

1266

0212301C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

1264

1265

1266

0128101C

NG

99

NO

4 DEG C

1 L AG

1264

1265

1266

0128101C

NAM

UN06

NO

4 DEG C

1 L AG

1264

1265

1266

0128101C

DNT

UN26

NO

4 DEG C

2nd
elev = 801.6

Riser
elev = 804.21

GW
elev = 761.74

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PAGE 01

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SPN-37-04B

JOB NUMBER

6853-04

SAMPLING DATE

11 20 91

LOCATION ACTIVITY START 1130 END 1230

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 50° S

WATER LEVEL / WELL DATA

WELL DEPTH 75.4 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.48 FT

PROTECTIVE CASING/WELL DIFF.

0.26 FT

WATER DEPTH 42.47 FT

WELL DIAMETER 8 INCH

GROUNDWATER ELEVATION (BGS)

40.25

HEIGHT OF WATER COLUMN 32.93 FT

☒ 0.16 GAL/FT (2 IN)
☒ 0.65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

29 GAL/VOL

145 TOTAL GAL PURGED

(145)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: Cap

YES
NO
N/A

PURGE H2O CONTAINED?
☒ YES
☐ NO

WELL MATERIAL
☒ PVC
☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0.2 PPM

PURGE DATA

PURGE VOLUME

29 GAL 50 GAL 87 GAL 110 GAL 145 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

10.1	10.0	9.9	10.0	9.9
7.2	7.1	7.3	7.1	7.2
744	710	701	700	706

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS			
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY					ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1276			022280.1
CA	YES	HNO3 TO pH<2						
NA	YES	HNO3 TO pH<2						
CD	YES	HNO3 TO pH<2						
CR	YES	HNO3 TO pH<2						
HG	YES	HNO3 TO pH<2						
PB	YES	HNO3 TO pH<2						
NI	YES	HNO3 TO pH<2						
BA	YES	HNO3 TO pH<2						
HARD	YES	HNO3 TO pH<2			1276			022280.1
NIT	YES	H2SO4 TO pH<2	500 ML POLY		1277			042280.1
CL	YES	4 DEG C	500 ML POLY		1278			
SO4	YES	4 DEG C	500 ML POLY		1279			
ALK	NO	4 DEG C	500 ML POLY		1279			
TDS	NO	4 DEG C						
TOC	NO	H2SO4 TO pH<2 (3)40 ML VIAL						
NH3N2	NO	H2SO4 TO pH<2 500 ML POLY						
VOC	NO	NCL, 4 DEG C (3)40 ML VIAL			1280	1281	1282	021230.1
BN/A	NO	4 DEG C (2) 1 L AG			1283	1284		012310.1
NG	NO	4 DEG C	1 L AG		1285			
NAM	NO	4 DEG C	1 L AG		1286			
DNT	NO	4 DEG C	1 L AG		1287			
TPH	NO	H2SO4 TO pH<2	1 L GWM					

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NN/CP)
TAL METALS(Al,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NN/CP)

* purge H2O contained for vocs
- used historical volumes

SIGNATURE:

RECEIVED BY:

[Signature]
Fancy E

grd. elev. = 200.7

riser elev. = 803.17

gw elev. = 761.89

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN8904C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SPN-89-04C

JOB NUMBER

6853-04

SAMPLING DATE

12.13.91

LOCATION

ACTIVITY

START 0915

END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH

1105 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.58 FT

PROTECTIVE CASING/WELL DIFF.

-0.34 FT

WATER DEPTH

41.28 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

39.06

HEIGHT OF

WATER COLUMN

69 FT

☐ 16 GAL/FT (2 IN)
☒ 65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

56 GAL/VOL

see attached

28.2 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

0 PPM

WELL MOUTH

0 PPM

PURGE DATA

PURGE VOLUME

12 min

456

1008

1020

1032

1044

256 GAL

2112 GAL

2168 GAL

2234 GAL

2282 GAL

TEMP, DEG C

8.7

9.1

7.8

3.6

4.0

PH, UNITS

7.3

7.3

7.6

8.2

7.5

SPECIFIC CONDUCTIVITY umhos/cm

548

602

584

534

605

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐

☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

JSCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

2

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		ESS lot #
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			1288 / 0222801C
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	SB03	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1288 / 0222801C
CL	TT08	YES	4 DEG C	500 ML POLY		1289 / 0703101C
SO4	TT08	YES	4 DEG C			1290 /
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1291 /
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		1292 / 1293 / 1294 / 0211301C
NG	99	NO	4 DEG C	1 L AG		1295 / 1296 / 012801C
NAM	UN06	NO	4 DEG C	1 L AG		1297 /
DNT	UN26	NO	4 DEG C	1 L AG		1298 /
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		1299 /

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- see attached for volumes

SIGNATURE:

RECEIVED BY:

Nancy E. Roke

gnd = 201.6 nsev = 804.25 GW = 760.72
elev = 804.25 elev = 760.72

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN8905A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SPN-89-05A

JOB NUMBER

6853-04

SAMPLING DATE

11/23/91

LOCATION

ACTIVITY

START 1300

END 1415

PROGRAM

C

FILE NAME

CGW

WEATHER

Snow/rain

WATER LEVEL / WELL DATA

WELL DEPTH

54.00 FT

MEASURED

HISTORICAL

WATER DEPTH

41.53 FT

HEIGHT OF

WATER COLUMN

12.47 FT

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

2.00 FT

PROTECTIVE

CASING/WELL DIFF.

12.20 FT

WELL

DIAMETER

2 INCH

4 INCH

6 INCH

GROUNDWATER

ELEVATION

(BGS)

39.13

1.6 GAL/FT (2 IN)

65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

GAL/FT (IN)

32

GAL/VOL

160

TOTAL GAL PURGED

160

PURGE H2O CONTAINED?

YES NO

WELL MATERIAL

PVC SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: cap

YES NO N/A

YES NO N/A

YES NO N/A

YES NO N/A

YES NO N/A

PURGE DATA

PURGE VOLUME

232 GAL

64 GAL

90 GAL

122 GAL

160 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.3

7.6

4.1

7.9

4.8

4.8

8.3

7.6

4.1

8.3

7.6

4.1

4.1

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLORLESS

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA

NA

CD

CR

HG

PB

NI

BA

HARD

NIT

CL

SO4

ALK

TDS

TOC

NH3N2

VOC

BN/A

NG

NAM

DNT

TPH

SS16

SS16

SS16

SS16

SS16

S803

SD24

SS16

SS16

USEPA 130.2

TF10

TT08

TT08

USEPA 310.1

USEPA 160.1

USEPA 415.1

USEPA 350.2

1.17

UM16

99

UN06

UN26

USEPA 418.1

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

HN03 TO pH<2

HN03 TO pH<2

HN03 TO pH<2

HN03 TO pH<2

HN03 TO pH<2

HN03 TO pH<2

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HN03 TO pH<2

1 L POLY

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1300

1301

1302

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1337

1338

1339

1340

1341

1342

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1346

1347

1348

1349

1350

271 = 893.6

2150 = 895.99

GW 2110 = 730.41

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM8901

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

DBM-89-01

JOB NUMBER

6853-04

SAMPLING DATE

12-10-91

LOCATION

ACTIVITY START 1030 END 1200

PROGRAM

C

FILE NAME

CGW

WEATHER

30's, sunny

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.58 FT

PROTECTIVE CASING/WELL DIFF.

-1.16 FT

WELL DEPTH

125.0 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

115.58 FT

WELL DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION

113.16

HEIGHT OF WATER COLUMN

9.4 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

16 GAL/VOL

80 TOTAL GAL PURGED

WELL INTEGRITY:
FROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A

PURGE H2O CONTAINED?

YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.4 PPM

PURGE DATA

PURGE VOLUME

16 GAL	32 GAL	48 GAL	64 GAL	80 GAL
11.7	11.6	11.9	12.0	12.0
7.7	7.7	7.6	7.7	7.7
465	427	428	430	417

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
CRUNDOSS #
2" 1/4" #

RECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

NUMBER		METHOD	REQUIRED	COLLECTED	ESS 101
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	1183	022350.C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2		
NA	SS16	YES	HNO3 TO pH<2		
CO	SS16	YES	HNO3 TO pH<2		
CR	SS16	YES	HNO3 TO pH<2		
HG	S803	YES	HNO3 TO pH<2		
PB	SD24	YES	HNO3 TO pH<2		
NI	SS16	YES	HNO3 TO pH<2		
BA	SS16	YES	HNO3 TO pH<2		
HARD	USEPA 130.2	YES	HNO3 TO pH<2	1183	022350.C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY	1124
CL	TT08	YES	4 DEG C	500 ML POLY	0270310.C
SO4	TT08	YES	4 DEG C		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	1126
TDS	USEPA 160.1	NO	4 DEG C		
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	1187
BN/A	UM16	NO	4 DEG C	(2) 1 L AG	1188
NG	99	NO	4 DEG C	1 L AG	1124
NAM	UN06	NO	4 DEG C	1 L AG	021730.C
DNT	UN26	NO	4 DEG C	1 L AG	012310.C
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	1192
				1193	023810.C

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/AA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/AA:ICP)

-see attached for volumes
*recopy of originals

SIGNATURE: N. Roka / mm/PC

RECEIVED BY: Nancy E.

grid elev = 884.8 river elev = 886.90 GW elev = 777.16

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN 89 02 B

ECT USATHAMA-BAAP

SITE TYPE

WELL

ID

DBN-89-02B

JOB NUMBER

6853-04

SAMPLING DATE

12-12-91

LOCATION ACTIVITY

START 0800 END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

35's RAINY!!

WATER LEVEL / WELL DATA

WELL DEPTH

155' (topog)

MEASURED

HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP (FROM GROUND)

227 FT

PROTECTIVE

CASING/WELL DIFF.

-0.17 FT

WATER DEPTH

109.74 FT

WELL DIAMETER

2 INCH

GROUNDWATER

ELEVATION

107.64

HEIGHT OF

WATER COLUMN

45 FT

16 GAL/FT (2 IN)

65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

41 GAL/VOL

205

TOTAL GAL PURGED

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: cap

YES

NO

N/A

PURGE DATA

PURGE VOLUME

41 GAL

82 GAL

123 GAL

164 GAL

205 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.2

7.9

340

11.6

7.9

345

11.7

7.9

342

12.0

7.9

343

12.0

7.9

343

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEFS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

801

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

801

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

801

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

801

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

801

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

801

HG

SB03

YES

HNO3 TO pH<2

1 L AG

801

PB

SD24

YES

HNO3 TO pH<2

1 L AG

801

NI

SS16

YES

HNO3 TO pH<2

1 L AG

801

BA

SS16

YES

HNO3 TO pH<2

1 L AG

801

HARD

USEPA 130.2

YES

H2SO4 TO pH<2

500 ML POLY

801

NIT

TF10

YES

4 DEG C

500 ML POLY

801

CL

TT08

YES

4 DEG C

500 ML POLY

801

CO3

TT08

YES

4 DEG C

500 ML POLY

801

CK

USEPA 310.1

NO

4 DEG C

500 ML POLY

801

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

801

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

801

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

801

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

801

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

801

NG

99

NO

4 DEG C

1 L AG

801

NAM

UN06

NO

4 DEG C

1 L AG

801

DNT

UN26

NO

4 DEG C

1 L AG

801

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GUM

801

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: MCP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: MCP)

- see attached for volumes

- could not use H2O2 or bottom sampler due to precipitation

SIGNATURE:

RECEIVED BY:

Nancy E. [Signature]

gwl = 296.4
elev. = 296.4

riser = 298.85
elev. = 298.85

GW = 777.26
elev. = 777.26

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM8903

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID DBM-89-03

JOB NUMBER

6853-04

LOCATION

ACTIVITY

START 0900

END 1015

PROGRAM

C

SAMPLING DATE

12-10-91

FILE NAME

CGW

WEATHER

Sunny, 30°

windy

WATER LEVEL / WELL DATA

WELL DEPTH 132.11 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.39 FT

PROTECTIVE CASING/WELL DIFF.

-1.15 FT

WATER DEPTH 121.58 FT

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

119.34

HEIGHT OF WATER COLUMN 10.53 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

18 GAL/VOL

90 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 0.6 PPM

PURGE DATA

PURGE VOLUME

0 18 GAL

0 36 GAL

0 54 GAL

0 72 GAL

0 90 GAL

TEMP, DEG C

11.2

11.4

11.4

11.3

10.8

pH, UNITS

7.6

7.5

7.5

7.6

7.6

SPECIFIC CONDUCTIVITY umhos/cm

459

444

462

430

422

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID
ISCO #
BRUNNEN #
2" 4" #

ECON FLUIDS USED

☒ FOTABLE WATER
☐ LIQUIDIX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1194 / 022801C
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
PC S803	YES	HNO3 TO pH<2			
FB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1194 / 022801C
CL TT08	YES	4 DEG C	500 ML POLY		1195 / 0703101C
SC4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1197 /
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1194 / 1199 / 1200 / 0212301C
NC 99	NO	4 DEG C	1 L AG		1201 / 1202 / 0125101C
NAM UN06	NO	4 DEG C	1 L AG		
DNT UN26	NO	4 DEG C	1 L AG		1203 / 0228101C
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		1204 /

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,NI,NA,SE,AD,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

- see attached for volumes
+recopy of originals

SIGNATURE: N. Roka / mm/PC

RECEIVED BY: Nancy E. Roka

grd. elev = 917.7 riser elev = 930.14

GW elev = 776.73

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN8904B

PAGE 1 OF 1

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID DBN-89-04B

JOB NUMBER 6853-04

SAMPLING DATE 12.7.91

LOCATION ACTIVITY START 1053 END 1215

PROGRAM C

FILE NAME CGW

WEATHER 30s sunny

WATER LEVEL / WELL DATA

WELL DEPTH 129.2 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 2.47 FT

PROTECTIVE CASING/WELL DIFF. -1.8 FT

WATER DEPTH 143.36 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

40 GAL/VOL

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 141.07

HEIGHT OF WATER COLUMN 46 FT

200 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: CAP

PURGE H2O CONTAINED? ☐ YES ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 40 GAL @ 60 GAL @ 100 GAL @ 160 GAL @ 200 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.3	11.1	11.2	11.2	11.0
7.7	7.6	7.7	7.6	7.6
517	501	445	447	441

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		867 / 022801C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			867 / 022801C
NI TFI0	YES	H2SO4 TO pH<2	500 ML POLY		868 / 022801C
CL TT08	YES	4 DEG C	500 ML POLY		869 /
SO4 TT08	YES	4 DEG C	500 ML POLY		870 /
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			871 / 872 / 873 / 0212301C
BN/A UM16	NO	4 DEG C (2) 1 L AG			874 / 875 / 022801C
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		876 / 877 / 022801C
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA,PCP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA,PCP)

see attached for calculations
- No HNU readings

SIGNATURE:

RECEIVED BY:

Nancy E.

grid
elev = 897.7

riser
elev. = 900.43

GW
elev. = 733.94

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM8905

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12/28/91

SITE ID DBM-89-05

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1100 END 1200

PROGRAM C

WEATHER PGGY 50"

WATER LEVEL / WELL DATA

WELL DEPTH 135.0 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.44 FT

PROTECTIVE
CASING/WELL DIFF. -.18 FT

WATER DEPTH 116.49 FT

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(EGS)

114.23

HEIGHT OF
WATER COLUMN 18.51 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

31 GAL/VOL

155 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
X
X
X

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 31 GAL

@ 42 GAL

@ 93 GAL

@ 124 GAL

@ 155 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.1
7.8
528

11.1
7.7
528

11.1
7.7
527

11.1
7.7
527

11.2
7.7
529

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA SS16

NA SS16

CD SS16

CR SS16

HG SB03

PB SD24

NI SS16

BA SS16

HARD USEPA 130.2

NIT TF10

CL TT08

SO4 TT08

ALK USEPA 310.1

TDS USEPA 160.1

TOC USEPA 415.1

NH3N2 USEPA 350.2

VOC UM17

BN/A UM16

NG 99

NAM UN06

DNT UW26

TPH USEPA 418.1

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

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1 L POLY

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NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* purge H2O containerized for VOC's

- see attached for volumes

BOLT FOR BOTTOM SCREWER TORE OFF & FELL DOWN WELL

(REMOVED BY MANGROVE)

SIGNATURE: R. C. S. L. / H. C.

RECEIVED BY: Nancy E. Rohn

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DEME201

PAGE 05

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

DBM-82-01

JOB NUMBER

6853-04

SAMPLING DATE

12-10-91

LOCATION

START 1215 END 1430

PROGRAM

C

FILE NAME

CGW

WEATHER

clear, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH

173 FT

MEASURED

HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.77 FT

PROTECTIVE CASING/WELL DIFF.

0.00 FT

WATER DEPTH

141.30 FT

WELL DIAMETER

2 INCH

GROUNDWATER ELEVATION (BGS)

139.59

HEIGHT OF WATER COLUMN

31.64 FT

0.16 GAL/FT (2 IN)

0.65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

GAL/FT (IN)

47 GAL/VOL

235 TOTAL GAL PURGED

235

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CAP

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.4 PPM

PURGE DATA

PURGE VOLUME

47 GAL

94 GAL

141 GAL

188 GAL

235 GAL

TEMP, DEG C

12.3

12.4

12.4

12.5

12.3

PH, UNITS

7.2

7.3

7.3

7.3

7.7

SPECIFIC CONDUCTIVITY umhos/cm

555

533

532

529

510

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

757

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

757

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

757

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

757

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

757

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

757

HG

S803

YES

HNO3 TO pH<2

1 L POLY

757

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

757

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

757

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

757

HARD

USEPA 130.2

YES

HNO3 TO pH<2

1 L POLY

757

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

757

CL

TT08

YES

4 DEG C

500 ML POLY

757

SO4

TT08

YES

4 DEG C

500 ML POLY

757

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

757

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

757

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

757

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

757

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

757

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

757

NG

99

NO

4 DEG C

1 L AG

757

NAM

UN06

NO

4 DEG C

1 L AG

757

DNT

UN26

NO

4 DEG C

1 L AG

757

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

757

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used historical volume

SIGNATURE:

RECEIVED BY:

Stanley E.

Q11
2100 = 918.2

rise
2100 = 920.16

GW
2100 = 731.77

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM3202

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12.9.91

SITE ID DBM-82-02

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0800 END 0930

PROGRAM C

WEATHER 28° F CLOUDY
MAY SUNNY

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.09 FT

PROTECTIVE CASING/WELL DIFF. FLUSH FT

WELL DEPTH 141.75 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 138.39 FT

WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 136.30

HEIGHT OF WATER COLUMN 2.5 FT X
☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

46 GAL/VOL

230 TOTAL GAL PURGED (230)

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: CAP 2

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

2 46 GAL

2 92 GAL

2 138 GAL

2 184 GAL

2 230 GAL

TEMP, DEG C

12.3

11.9

11.9

11.7

11.7

PH, UNITS

7.1

7.1

7.0

7.1

7.1

SPECIFIC CONDUCTIVITY umhos/cm

1090

1078

1079

1075

1072

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	768	/	/	/	0222801C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			/	/	/	
CA	SS16	YES	HNO3 TO pH<2		/	/	/	
NA	SS16	YES	HNO3 TO pH<2		/	/	/	
CD	SS16	YES	HNO3 TO pH<2		/	/	/	
CR	SS16	YES	HNO3 TO pH<2		/	/	/	
HG	SB03	YES	HNO3 TO pH<2		/	/	/	
PB	SD24	YES	HNO3 TO pH<2		/	/	/	
NI	SS16	YES	HNO3 TO pH<2		/	/	/	
BA	SS16	YES	HNO3 TO pH<2		/	/	/	
HARD	USEPA 130.2	YES	HNO3 TO pH<2	768	/	/	/	0222801C
NIT	TF10	YES	H2SO4 TO pH<2	769	/	/	/	0703101C
CL	TT08	YES	4 DEG C	770	/	/	/	
SO4	TT08	YES	4 DEG C	771	/	/	/	
ALK	USEPA 310.1	NO	4 DEG C	772	/	/	/	
TDS	USEPA 160.1	NO	4 DEG C	773	/	/	/	
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL	774	/	/	/	
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY	775	/	/	/	
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL	776	/	/	/	0212301C
BN/A	UM16	NO	4 DEG C (2) 1 L AG	777	/	/	/	012801C
NG	99	NO	4 DEG C 1 L AG	778	/	/	/	
NAM	UN06	NO	4 DEG C 1 L AG	779	/	/	/	012801C
DNT	UN26	NO	4 DEG C 1 L AG	780	/	/	/	
TPH	USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM	781	/	/	/	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*contained purge H2O for DNT
-used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. Rota

orig
elev. = 905.0

finger
elev. = 907.36

GW
elev. = 777.14

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN8201C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12/9/91

SITE ID DBN-82-01C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0950 END 1045

PROGRAM C

WEATHER cloudy 30°

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.35 FT

PROTECTIVE CASING/WELL DIFF.

-0.01 FT

WELL DEPTH 169.3 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 130.22 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

127.88

HEIGHT OF WATER COLUMN 39.08 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)=
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

43 GAL/VOL

215 TOTAL GAL PURGED

(215)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

@ 43 GAL

@ 86 GAL

@ 129 GAL

@ 172 GAL

@ 215 GAL

TEMP, DEG C

11.9

11.7

12.0

12.2

12.0

PH, UNITS

7.6

7.8

7.3

7.3

7.8

SPECIFIC CONDUCTIVITY umhos/cm

349

318

315

318

316

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

<input checked="" type="checkbox"/>	PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		845	/	/	/	022250.C
<input checked="" type="checkbox"/>	TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	CA	SS16	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	NA	SS16	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	CD	SS16	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	CR	SS16	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	HG	SB03	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	PB	SD24	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	NI	SS16	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	BA	SS16	YES	HNO3 TO pH<2				/	/	/	
<input checked="" type="checkbox"/>	HARD	USEPA 130.2	YES	HNO3 TO pH<2			845	/	/	/	022250.C
<input checked="" type="checkbox"/>	NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		846	/	/	/	070310.C
<input checked="" type="checkbox"/>	CL	TT08	YES	4 DEG C	500 ML POLY		847	/	/	/	
<input checked="" type="checkbox"/>	SO4	TT08	YES	4 DEG C			848	/	/	/	
<input checked="" type="checkbox"/>	ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			/	/	/	
<input checked="" type="checkbox"/>	TDS	USEPA 160.1	NO	4 DEG C				/	/	/	
<input checked="" type="checkbox"/>	TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			/	/	/	
<input checked="" type="checkbox"/>	NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			/	/	/	
<input checked="" type="checkbox"/>	VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		849	/	850	/	021230.C
<input checked="" type="checkbox"/>	BN/A	UM16	NO	4 DEG C	(2) 1 L AG		852	/	853	/	012310.C
<input checked="" type="checkbox"/>	NG	99	NO	4 DEG C	1 L AG			/	/	/	
<input checked="" type="checkbox"/>	NAM	UN06	NO	4 DEG C	1 L AG		854	/	/	/	012810.C
<input checked="" type="checkbox"/>	DNT	UW26	NO	4 DEG C	1 L AG		855	/	/	/	
<input checked="" type="checkbox"/>	TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			/	/	/	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*containerized purge H2O for DNT
- used historical volumes

SIGNATURE: RLC S. H. / MC

RECEIVED BY: Nancy E. Rotza

3.0 = 917.5 1.021 = 919.39 GU = 780.31
2.20 = 917.5 1.021 = 919.39 2.20 = 780.31

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PAGE 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN8904A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID DBN-189-04A

JOB NUMBER

6853-04

SAMPLING DATE

12.7.91

LOCATION

ACTIVITY

START 1050

END 1115

PROGRAM

C

FILE NAME

CGW

WEATHER

30's sunny

WATER LEVEL / WELL DATA

WELL DEPTH 154.65 FT

WATER DEPTH 131.58 FT

HEIGHT OF WATER COLUMN 15 FT

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.50 FT

PROTECTIVE CASING/WELL DIFF.

0.22 FT

☒ MEASURED
☐ HISTORICAL

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

25 GAL/VOL

125 TOTAL GAL PURGED

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (FTS)

137.30

PURGE H2O CONTAINED?
☐ YES
☒ NO

WELL MATERIAL
☒ PVC
☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE DATA

PURGE VOLUME

@ 25 GAL

@ 50 GAL

@ 75 GAL

@ 100 GAL

@ 125 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.4

7.4

584

11.2

7.4

581

11.0

7.4

571

10.8

7.4

575

10.9

7.3

572

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ QUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

ANALYTICAL PARAMETERS	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		856 /
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	SB03	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		856 /
CL	TT08	YES	4 DEG C	500 ML POLY		857 /
SO4	TT08	YES	4 DEG C	500 ML POLY		858 /
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		859 /
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

- see attached for calculations

- No H2O readings

SIGNATURE:

RECEIVED BY:

W. E. E.

grl. elev. = 875.5 nser elev. = 877.65 GW elev. = 777.10

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN9107A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-91-07A

JOB NUMBER

6853-04

SAMPLING DATE 12.8.91

LOCATION

ACTIVITY START 0830 END 0930

PROGRAM

C

FILE NAME

CGW

WEATHER

3:30 to 4:00

WATER LEVEL / WELL DATA

WELL DEPTH 128 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.58 FT

PROTECTIVE CASING/WELL DIFF.

-1.10 FT

WATER DEPTH 120.5 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

119.07

HEIGHT OF WATER COLUMN 7 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

27 GAL/VOL

135 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cep

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 6 PPM

WELL MOUTH 0.6 PPM

PURGE DATA

PURGE VOLUME

27 GAL

54 GAL

21 GAL

102 GAL

135 GAL

TEMP, DEG C

10.5

10.6

10.6

10.7

10.7

PH, UNITS

7.0

7.5

7.6

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

604

525

523

523

523

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☒ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1150	0222801C
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	S803	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2		1150	0222801C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY	1151	0703101C
CL	TT08	YES	4 DEG C	500 ML POLY	1152	
SO4	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	1153	
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	1154	1155
BN/A	UM16	NO	4 DEG C	(2) 1 L AG	1157	1158
HG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG	1159	
DNT	UN26	NO	4 DEG C	1 L AG	1160	
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

- used volumes from development
- could not get well bottom elev.

SIGNATURE:

RECEIVED BY:

Nancy E. Rota

grd. elev. = 823.9 elev. = 895.33 Gw elev. = 777.13

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN9107B

PAGE 1 OF 1

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-91-07B

JOB NUMBER

6853-04

SAMPLING DATE

12-8-91

LOCATION ACTIVITY START 0800 END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

30's foggy

WATER LEVEL / WELL DATA

WELL DEPTH 147 FT

☒ MEASURED
☐ HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.58 FT

PROTECTIVE
CASING/WELL DIFF.

-0.09 FT

WATER DEPTH 118.10 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

117.21

HEIGHT OF
WATER COLUMN 28 FT X

☒ 0.16 GAL/FT (2 IN)
☒ 0.65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

30 GAL/VOL

180 TOTAL GAL PURGED

100?

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES ☒ NO ☐ N/A ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 3 PPM

PURGE DATA

PURGE VOLUME

	59	11	23	35	47
PURGE VOLUME	230 GAL	272 GAL	1080 GAL	144 GAL	180 GAL
TEMP, DEG C	10.7	10.8	10.8	10.5	11.3
PH, UNITS	7.5	7.5	7.5	7.5	7.4
SPECIFIC CONDUCTIVITY umhos/cm	505	501	508	499	506

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS 1st #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2		1161	022201C
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2		1161	022201C
TF10	YES	H2SO4 TO pH<2	500 ML POLY	1162	070510C
CL TT08	YES	4 DEG C	500 ML POLY	1163	
SO4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1164	
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC UM17	NO	NCL, 4 DEG C (3)40 ML VIAL		1165	022201C
BN/A UM16	NO	4 DEG C (2) 1 L AG		1166	022201C
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG	1170	022201C
DNT UN26	NO	4 DEG C	1 L AG	1171	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used volumes from development
-due to weather conditions (well seals wet) could not get bottom of well view

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

907 elev = 920.8
923 elev = 923.04

GW elev = 777.39

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

ELM9110

SITE ID

ELM-911-10

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

12.8.71

LOCATION

ACTIVITY

START 1315

END 1415

PROGRAM

C

FILE NAME

CGW

WEATHER

foggy, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH

157 FT

MEASURED

HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

145 FT

PROTECTIVE

CASING/WELL DIFF.

0.11 FT

WATER DEPTH

145.65 FT

WELL DIAMETER

2 INCH

GROUNDWATER

ELEVATION

144.31

HEIGHT OF

WATER COLUMN

11.4 FT

X

X

X

X

X

X

X

X

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.16 GAL/FT (2 IN)

.65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

GAL/FT (IN)

29

GAL/VOL

145

TOTAL GAL PURGED

143

PURGE H2O CONTAINED?

YES

NO

NEAL MATERIAL

PVC

SS

AMBIENT AIR

0.2

PPM

WELL MOUTH

0.2

PPM

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER:

YES

NO

N/A

X

X

X

X

X

X

X

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</

glt
elev = 920.5

rise
elev = 922.73

GW
elev = 773.70

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8701

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-87-01

JOB NUMBER

6853-04

SAMPLING DATE

12.4.91

LOCATION

ACTIVITY

START 1230 END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny 15°F

WATER LEVEL / WELL DATA

WELL DEPTH 166.1 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.13 FT

PROTECTIVE CASING/WELL DIFF.

- 1.5"

WATER DEPTH 144.05 FT

☒ 1.6 GAL/FT (2 IN)
☒ 1.65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

37 GAL/VOL

WELL DIAMETER

☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

142.05

HEIGHT OF WATER COLUMN 22 FT

X

18.5 TOTAL GAL PURGED

280

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: *Lat*

YES
☒
NO
☐

PURGE H2O CONTAINED?
☐ YES
☒ NO

WELL MATERIAL
☐ PVC
☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 37 GAL

@ 74 GAL

@ 111 GAL

@ 140 GAL

@ 185 GAL

TEMP, DEG C

10.3°

9.7°

8.5°

9.2°

7.9°

PH, UNITS

7.4

7.3

7.3

7.4

7.5

SPECIFIC CONDUCTIVITY umhos/cm

1033

1033

1001

1033

1033

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒
☒
☒
☐

☒
☒
☒
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
SERIALS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

Esc lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

NCL, 4 DEG C

(3)40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

ES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:100)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:100)

*see attached for volume calculations
H2O is functioning correctly

SIGNATURE:

RECEIVED BY:

Nancy E. Korte

3rd
elev = 919.4

riser
elev = 921.10

GW
elev = 773.94

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID ELN-89-02A
LOCATION ACTIVITY START END 0900

FIELD SAMPLING NUMBER ELN8902A
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12-12-91
12-6-91
FILE NAME CGW
WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH 147.20 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 147.16 FT
HEIGHT OF WATER COLUMN 1 FT
PURGE H2O CONTAINED? ☐ YES ☒ NO
WELL MATERIAL ☒ PVC ☐ SS
AMBIENT AIR (1) PPM
WELL MOUTH (2) PPM
TOP OF WELL ☒ TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND) 2.10 FT
PROTECTIVE CASING/WELL DIFF. -170 FT
WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 145.52
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: CGW

PURGE DATA

PURGE VOLUME	<u>0.75</u> GAL	<u>0</u> GAL	<u>0</u> GAL	<u>0</u> GAL	<u>0</u> GAL
TEMP, DEG C	<u>15.0</u>				
pH, UNITS	<u>4.97</u>				
SPECIFIC CONDUCTIVITY umhos/cm					

SAMPLE OBSERVATIONS:
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☐
PERISTALTIC PUMP ☐
SUBMERSIBLE PUMP ☐
BAILER ☐
PVC/SILICON TUBING ☐
IN-LINE/DISPOSABLE FILTER ☐
OTHER ☐
EQUIPMENT ID ISCO #
GRUNDFOS#
2" 4" #
DECON FLUIDS USED ☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A	NO	4 DEG C (2) 1 L AG				
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NO SAMPLE

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
- see calculations for volumes
- purged dry @ 100 gals. on 12/16/91 - white suspended solids (grout)
SIGNATURE: N. Roka
RECEIVED BY: Nancy E. Roka

grd elev. = 918.0

riser elev. = 920.17

GW elev. = 776.59

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN89026

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

ELN-89-02B

JOB NUMBER

6853-04

SAMPLING DATE

12-6-91

LOCATION ACTIVITY

START 1400 END 1530

PROGRAM

C

FILE NAME

CGW

WEATHER

partly sunny, 20

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.5 FT

PROTECTIVE CASING/WELL DIFF.

-1.32 FT

WELL DEPTH

12.65 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

143.60 FT

HEIGHT OF WATER COLUMN

34 FT

☒ 16 GAL/FT (2 IN)
☒ 65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

30 GAL/VOL

TOTAL GAL PURGED

18.0

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

141.87

PURGE H2O CONTAINED?
☐ YES
☒ NO

WELL MATERIAL
☒ PVC
☐ SS

AMBIENT AIR () PPM

WELL MOUTH () PPM

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: 24

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE DATA

PURGE VOLUME

2.30 GAL

2.22 GAL

10.00 GAL

2.44 GAL

2.15 GAL

TEMP, DEG C

7.9

8.4

10.0

11.2

9.3

PH, UNITS

9.4

8.0

7.5

7.8

7.2

SPECIFIC CONDUCTIVITY umhos/cm

144

450

455

465

462

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GROUNDOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED
1 L POLY

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

HG

SB03

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1060 / / / 022850C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

☒

1060 / / / 022850C

IT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

1060 / / / 022850C

TT08

YES

4 DEG C

500 ML POLY

☒

1060 / / / 022850C

TT08

YES

4 DEG C

500 ML POLY

☒

1060 / / / 022850C

USEPA 310.1

NO

4 DEG C

500 ML POLY

☒

1060 / / / 022850C

USEPA 160.1

NO

4 DEG C

500 ML POLY

☒

1060 / / / 022850C

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

☒

1060 / / / 022850C

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☒

1060 / / / 022850C

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

☒

1060 / / / 022850C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☒

1060 / / / 022850C

AS

99

NO

4 DEG C

1 L AG

☒

1060 / / / 022850C

WAM

UN06

NO

4 DEG C

1 L AG

☒

1060 / / / 022850C

DNT

UN26

NO

4 DEG C

1 L AG

☒

1060 / / / 022850C

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

☒

1060 / / / 022850C

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:TCP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:TCP)

- see calculations for volumes

SIGNATURE:

RECEIVED BY:

[Signature]
Nancy E. Poma

917.0
elev = 917.0

916.28
elev = 916.28

777.28
elev = 777.28

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID ELM-87-03
LOCATION ACTIVITY START 1145 END 1245

FIELD SAMPLING NUMBER ELM8703
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12-8-91
FILE NAME CGW
WEATHER foggy, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 152 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 144.0 FT
HEIGHT OF WATER COLUMN 8.0 FT
WELL DIAMETER ☒ 2 INCH ☒ 4 INCH ☐ 6 INCH
PROTECTIVE CASING STICK-UP (FROM GROUND) 257 FT
PROTECTIVE CASING/WELL DIFF. -0.9 FT
GROUNDWATER ELEVATION (BGS) 136.62
WELL INTEGRITY: YES ☒ NO ☐
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: cap

PURGE DATA

	32	40	48	56	64
PURGE VOLUME	<u>22</u> GAL	<u>44</u> GAL	<u>66</u> GAL	<u>88</u> GAL	<u>110</u> GAL
TEMP, DEG C	<u>11.4</u>	<u>11.2</u>	<u>11.2</u>	<u>11.1</u>	<u>10.9</u>
PH, UNITS	<u>7.4</u>	<u>7.3</u>	<u>7.4</u>	<u>7.3</u>	<u>7.4</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>542</u>	<u>539</u>	<u>539</u>	<u>529</u>	<u>546</u>

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
SUBMERSIBLE PUMP ☒ GROUND FOS# 2" 4" #
BAILER ☒
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☒
OTHER ☐
DECON FLUIDS USED ☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C	500 ML POLY		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UN26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GMM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)

- see attached for volumes

SIGNATURE: [Signature]
RECEIVED BY: Nancy E. Roper

grd
elev = 924.1

riser
elev = 926.28

GW
elev = 777.24

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN2904A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12.5.91

SITE ID ELN-89-04A

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1100 END 1200

PROGRAM C

WEATHER Snow 2017
windy

WATER LEVEL / WELL DATA

WELL DEPTH 163.7 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.77 FT

PROTECTIVE CASING/WELL DIFF.

WATER DEPTH 151.22 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)

25 GAL/VOL

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS) 146.70

HEIGHT OF WATER COLUMN 14.7 FT

125 TOTAL GAL PURGED

180

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1 PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

2.25 GAL

2.50 GAL

2.75 GAL

2.10 GAL

2.25 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.9

9.1

1.0

7.2

7.0

7.3

7.5

7.1

7.0

7.0

1.55

1.30

1.41

1.44

1.30

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GRUNDFOS#
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

1069

0.2220 C

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

1070

0.20310 C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

1071

0.2220 C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

1072

0.2220 C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

1073

0.2220 C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

1074

0.2220 C

HG

S803

YES

HNO3 TO pH<2

1 L AG

1075

0.2220 C

PB

SD24

YES

HNO3 TO pH<2

1 L AG

1076

0.2220 C

NI

SS16

YES

HNO3 TO pH<2

1 L AG

1077

0.2220 C

BA

SS16

YES

HNO3 TO pH<2

1 L AG

1078

0.2220 C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

1079

0.2220 C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

1080

0.2220 C

CL

TT08

YES

4 DEG C

500 ML POLY

1081

0.2220 C

SC4

TT08

YES

4 DEG C

500 ML POLY

1082

0.2220 C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

1083

0.2220 C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

1084

0.2220 C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

1085

0.2220 C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

1086

0.2220 C

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

1087

0.2220 C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

1088

0.2220 C

NG

99

NO

4 DEG C

1 L AG

1089

0.2220 C

NAM

UN06

NO

4 DEG C

1 L AG

1090

0.2220 C

DNT

UN26

NO

4 DEG C

1 L AG

1091

0.2220 C

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

1092

0.2220 C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

- see attached for volume calculations

- (as broken when getting P/B loop in well

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

*sampled 12.10.91
(over)- Returned on 12.10.91 to recollect metals/Hard - hadn't been filtered in field

grd.
elev = 924.8

riser
elev = 926.63

GW
elev = 776.41

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN 89 04 B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-89-04B

JOB NUMBER

6853-04

SAMPLING DATE

12 5 91

LOCATION

ACTIVITY

START 1215

END 1330*

PROGRAM

C

FILE NAME

CGW

WEATHER

SNOW 20°F

WATER LEVEL / WELL DATA

WELL DEPTH

200.2 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.75 FT

PROTECTIVE
CASING/WELL DIFF.

-0.20 FT

WATER DEPTH

152.72 FT

WELL
DIAMETER

☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGGS)

148.67

HEIGHT OF
WATER COLUMN

50 FT

☐ 0.16 GAL/FT (2 IN)
☐ 0.65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

45 GAL/VOL

225 TOTAL GAL PURGED

(220)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

PURGE DATA

PURGE VOLUME

45 GAL

90 GAL

135 GAL

180 GAL

225 GAL

TEMP, DEG C

7.7

9.5

7.4

9.0

8.7

PH, UNITS

7.6

7.8

7.8

8.0

8.0

SPECIFIC CONDUCTIVITY umhos/cm

525

446

441

621

581

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GROUNDOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			1078 / 022280.C
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			1078 / 022280.C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1079 / 070300.C
CL TT08	YES	4 DEG C	500 ML POLY		1080 /
SO4 TT08	YES	4 DEG C	500 ML POLY		1081 /
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1082 /
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		1082 / 1093 / 1084 / 021730.C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1085 / 1086 / 012810.C
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- see attached for volume calculations.

* sample 126.2 87-64 A 1330

SIGNATURE:

RECEIVED BY:

Nancy E. Ropa

grd elev = 292.2

riser elev = 900.95

GW elev = 777.62

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8905

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-05

JOB NUMBER

6853-04

SAMPLING DATE

12-8-91

LOCATION

ACTIVITY START 1530 END 1615

PROGRAM

C

FILE NAME

CGW

WEATHER

clear, 50% sun

WATER LEVEL / WELL DATA

WELL DEPTH 12.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.54 FT

PROTECTIVE CASING/WELL DIFF.

+0.01 FT

WATER DEPTH 10.27 FT

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

120.74

HEIGHT OF WATER COLUMN 6.2 FT

☒ 1.6 GAL/FT (2 IN)
☒ 1.65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

11 GAL/VOL

55 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.4 PPM

PURGE DATA

PURGE VOLUME

59 03 07 11 15
@ 11 GAL @ 22 GAL @ 33 GAL @ 44 GAL @ 55 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.5	9.7	9.8	9.8	9.6
7.4	7.4	7.4	7.4	7.4
576	550	559	558	554

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☒ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			907	0022501C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		907	0022501C
CL TT08	YES	4 DEG C	500 ML POLY		908	070301C
SO4 TT08	YES	4 DEG C			909	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		910	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.4	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		911	0012301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		914	0022501C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ACP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ACP)

- see attached for volumes

SIGNATURE:

RECEIVED BY:

[Signature]
[Signature]

grd. elev. = 906.1

riser elev. = 908.22

GW elev. = 776.34

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8906B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-89-06B

JOB NUMBER

6853-04

SAMPLING DATE 12.8.91

LOCATION

ACTIVITY START 0900 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

FOGGY 50°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASINGPROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.70 FT

PROTECTIVE
CASING/WELL DIFF.

-.75 FT

WELL DEPTH 182.0 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 131.38 FT

WELL
DIAMETER☐ 2 INCH
☒ 4 INCH
☐ 6 INCHGROUNDWATER
ELEVATION
(BGS)

129.43

HEIGHT OF
WATER COLUMN 50.82 FT X ☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)=
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

45 GAL/VOL

225 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAPYES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐PURGE H2O CONTAINED?
☒ YES ☐ NOWELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME	@ 45 GAL	@ 90 GAL	@ 135 GAL	@ 180 GAL	@ 225 GAL
TEMP, DEG C	10.6	10.4	10.3	10.4	10.6
pH, UNITS	7.3	7.4	7.5	7.5	7.5
SPECIFIC CONDUCTIVITY umhos/cm	651	638	640	643	642

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHODVOLUME
REQUIREDSAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY					
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
CA	SS16	YES	HNO3 TO pH<2			1087			022250.C
NA	SS16	YES	HNO3 TO pH<2						
CD	SS16	YES	HNO3 TO pH<2						
CR	SS16	YES	HNO3 TO pH<2						
HG	SB03	YES	HNO3 TO pH<2						
PB	SD24	YES	HNO3 TO pH<2						
NI	SS16	YES	HNO3 TO pH<2						
BA	SS16	YES	HNO3 TO pH<2						
HARD	USEPA 130.2	YES	HNO3 TO pH<2			1087			022250.C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1028			070310.C
CL	TT08	YES	4 DEG C	500 ML POLY		1089			
SO4	TT08	YES	4 DEG C						
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1090			
TDS	USEPA 160.1	NO	4 DEG C						
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL						
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY						
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			1091	1092	1093	021230.C
BN/A	UM16	NO	4 DEG C (2) 1 L AG			1094	1095		022510.C
NG	99	NO	4 DEG C	1 L AG					
NAM	UN06	NO	4 DEG C	1 L AG					
DNT	UN26	NO	4 DEG C	1 L AG					
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM					

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* containerized purge H2O for VOC's
 - see attached for volumes

SIGNATURE:

R. C. S. H. / ABC

RECEIVED BY:

Nancy E. Pora

2nd
220 = 915.7

1st
220 = 916.19

GW
220 = 776.47

ABB ENVIRONMENTAL SERVICES, INC.

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8907

PAGE 1 OF 1

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-107

JOB NUMBER

6853-04

SAMPLING DATE

12-9-91

LOCATION

ACTIVITY

START 1315

END 1415

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 30°S

WATER LEVEL / WELL DATA

WELL DEPTH

152.4 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.35 FT

PROTECTIVE
CASING/WELL DIFF.

0.29 FT

WATER DEPTH

139.72 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION

137.46

HEIGHT OF
WATER COLUMN

12.7 FT

☒ 1.6 GAL/FT (2 IN)
☒ 1.65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

21 GAL/VOL

105

TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?

☐ YES
☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR 0.8 PPM

WELL MOUTH 0.8 PPM

PURGE DATA

PURGE VOLUME

34

@ 21 GAL

41

@ 42 GAL

40

@ 63 GAL

55

@ 84 GAL

52

@ 105 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

74.93

7.7

559

9.1

7.6

560

10.1

7.3

560

9.2

7.5

564

9.4

7.5

564

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COLOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	ESS 107 #
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	916 / 022785 C
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	916 / 022230 C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	917 / 070310 C
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>	
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>	
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>	
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	920 / 921 / 922 / 021230 C
BN/A UM16	NO	4 DEG C (2) 1 L AG		<input checked="" type="checkbox"/>	923 / 924 / 022240 C
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	
DNT UN26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/MA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/MA:ICP)

- see attached for volumes

SIGNATURE:

RECEIVED BY:

Nancy E.

3rd
elev. = 903.0

riser
elev. = 906.04

GW
elev. = 777.13

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID ELM-89-08
LOCATION ACTIVITY START 1430 END 1530

FIELD SAMPLING NUMBER ELM8908
SITE TYPE WEL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12.9.91
FILE NAME CGW
WEATHER Sunny, 30°S

WATER LEVEL / WELL DATA

WELL DEPTH 148 FT MEASURED ☒ TOP OF WELL PROTECTIVE TOP OF CASING CASING STICK-UP (FROM GROUND) 2.85 FT PROTECTIVE CASING/WELL DIFF. 0.20 FT
WATER DEPTH 128.9 FT HISTORICAL ☒
WELL DIAMETER ☒ 2 INCH ☒ 4 INCH ☒ 6 INCH GROUNDWATER ELEVATION (BGS) 126.26
HEIGHT 19 FT X ☒ 16 GAL/FT (2 IN) 32 GAL/VOL ☒ 8.65 GAL/FT (4 IN) 160 TOTAL GAL PURGED
WATER COLUMN 19 FT X ☒ 1.5 GAL/FT (6 IN) ☒ GAL/FT (IN)
PURGE H2O CONTAINED? ☒ YES ☒ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR 0.6 PPM WELL MOUTH 0.6 PPM
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☒ NO ☒ N/A
CONCRETE COLLAR INTACT ☒ YES ☒ NO ☒ N/A
WELL LOCKED ☒ YES ☒ NO ☒ N/A
OTHER: cap

PURGE DATA

	24	37	48	51	10
PURGE VOLUME	<u>32</u> GAL	<u>64</u> GAL	<u>96</u> GAL	<u>128</u> GAL	<u>160</u> GAL
TEMP, DEG C	<u>11.0</u>	<u>10.4</u>	<u>11.7</u>	<u>11.9</u>	<u>12.2</u>
PH, UNITS	<u>7.4</u>	<u>7.8</u>	<u>7.6</u>	<u>7.5</u>	<u>7.6</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>513</u>	<u>510</u>	<u>520</u>	<u>521</u>	<u>517</u>

SAMPLE OBSERVATIONS: ☒ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒ EQUIPMENT ID ☒ DECON FLUIDS USED ☒ WATER LEVEL EQUIP. USED
SUBMERSIBLE PUMP ☒ ISCO # ☒ POTABLE WATER
BAILER ☒ GROUNDOS# ☒ LIQUINOX
PVC/SILICON TUBING ☒ 2" ☐ 4" # ☒ STEAM CLEANING
IN-LINE/DISPOSABLE FILTER ☒ NUMBER OF FILTERS USED 1
OTHER ☐

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	925 / 022280.C
CA	SS16	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NA	SS16	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
CD	SS16	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
CR	SS16	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
HG	SB03	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
PB	SD24	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
NI	SS16	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
BA	SS16	HNO3 TO pH<2		<input checked="" type="checkbox"/>	
HARD	USEPA 130.2	HNO3 TO pH<2		<input checked="" type="checkbox"/>	925 / 022280.C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	926 / 020318.C
CL	TT08	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	927 /
SO4	TT08	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	928 /
ALK	USEPA 310.1	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	
TDS	USEPA 160.1	4 DEG C		<input checked="" type="checkbox"/>	
TOC	USEPA 415.1	H2SO4 TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>	
NH3N2	USEPA 350.2	H2SO4 TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>	
VOC	UM17	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	929 / 930 / 931 / 021230.C
BN/A	UM16	4 DEG C (2) 1 L AG		<input checked="" type="checkbox"/>	932 / 933 / 021230.C
NG	99	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	
NAM	UN06	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	
DNT	UN26	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>	

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K:NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K:NA:ICP)

- see attached for calculations

SIGNATURE: Nancy E. Portia
RECEIVED BY: Nancy E. Portia

gnd.
elev. = 919.6

riser
elev. = 921.79

GW
elev. = 779.44

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM2909

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12 15 91

SITE ID ELM-29-109

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1500 END 1600

PROGRAM C

WEATHER Sunny 40's
windy

WATER LEVEL / WELL DATA

WELL DEPTH 152.70 FT
WATER DEPTH 142.35 FT

☒ TOP OF WELL
☐ TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND)

3.19 FT

PROTECTIVE CASING/WELL DIFF. -1.23

HEIGHT OF WATER COLUMN 44 FT
X ☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

24 GAL/VOL
120 TOTAL GAL PURGED

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH
GROUNDWATER ELEVATION 140.39 (BGS)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.2 PPM

PURGE DATA

	10	15	24	34	42
PURGE VOLUME	@ 24 GAL	@ 40 GAL	@ 72 GAL	@ 96 GAL	@ 120 GAL
TEMP, DEG C	12.4	13.3	12.4	12.0	12.3
PH, UNITS	7.1	7.0	7.1	7.1	7.0
SPECIFIC CONDUCTIVITY umhos/cm	1085	1165	1135	1167	1138

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			934 / 012285C
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2			
NIT	YES	H2SO4 TO pH<2	500 ML POLY		934 / 022150C
CL	YES	4 DEG C	500 ML POLY		935 / 070513C
SO4	YES	4 DEG C	500 ML POLY		936 /
ALK	NO	4 DEG C	500 ML POLY		937 /
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		938 / 939 / 940 / 021730C
BN/A	NO	4 DEG C	(2) 1 L AG		941 / 942 / 022510C
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:CP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:CP)

- see attached for volumes

SIGNATURE:

RECEIVED BY:

Wendy E. [Signature]

grd. elev = 902.8

riser elev = 905.02

GW elev = 777.87

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8201A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID ELN-82-01A

JOB NUMBER 6853-04

SAMPLING DATE 11/25/91

LOCATION ACTIVITY START 1000 END 1230

PROGRAM C

FILE NAME CGW

WEATHER overcast
cold 15°

WATER LEVEL / WELL DATA

WELL DEPTH 133.48 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.14 FT

PROTECTIVE CASING/WELL DIFF. 0.0 FT

WATER DEPTH 127.15 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

125.01

HEIGHT OF WATER COLUMN 6.33 FT X ☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

4.1 GAL/VOL

TOTAL GAL PURGED 137

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: ☐ YES ☐ NO ☐ N/A

PURGE H2O CONTAINED? ☐ YES ☐ NO

WELL MATERIAL ☐ PVC ☐ SS

AMBIENT AIR PPM

PPM

WELL MOUTH PPM

PPM

PURGE DATA

PURGE VOLUME

a 3 GAL	a 6 GAL	a GAL	a GAL	a GAL
10.5	9.1			
6.5	6.5			
546	502			

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PLOGGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEDS#
☐ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

<input checked="" type="checkbox"/>	PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY				
<input checked="" type="checkbox"/>	TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			943		0222501C
<input checked="" type="checkbox"/>	CA	SS16	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	NA	SS16	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	CD	SS16	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	CR	SS16	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	HG	SB03	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	PB	SD24	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	NI	SS16	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	BA	SS16	YES	HNO3 TO pH<2					
<input checked="" type="checkbox"/>	HARD	USEPA 130.2	YES	HNO3 TO pH<2			943		0222501C
<input checked="" type="checkbox"/>	NIT	TFIO	YES	H2SO4 TO pH<2	500 ML POLY		944		0223101C
<input checked="" type="checkbox"/>	CL	TT08	YES	4 DEG C	500 ML POLY		945		
<input checked="" type="checkbox"/>	SO4	TT08	YES	4 DEG C					
<input checked="" type="checkbox"/>	ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		946		
<input checked="" type="checkbox"/>	TDS	USEPA 160.1	NO	4 DEG C					
<input checked="" type="checkbox"/>	TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL					
<input checked="" type="checkbox"/>	NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY					
<input checked="" type="checkbox"/>	VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			947	948	0223501C
<input checked="" type="checkbox"/>	BN/A	UM16	NO	4 DEG C (2) 1 L AG			950	951	0223501C
<input checked="" type="checkbox"/>	NG	99	NO	4 DEG C 1 L AG					
<input checked="" type="checkbox"/>	NAM	UN06	NO	4 DEG C 1 L AG					
<input checked="" type="checkbox"/>	DNT	UN26	NO	4 DEG C 1 L AG					
<input checked="" type="checkbox"/>	TPH	USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM					

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: DRD

RECEIVED BY: UNANCY E. ROTA

Ran dry at 4 gallons well at bottom of well

waited 17.5 min Ran dry for two more gallons will wait 20 min & sample

Let recharge again & sample

and. riser = 9027 elev. = 905.06
GLW elev. = 777.46

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8201C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11/25/91

SITE ID ELN-82-01C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1100 END 1330

PROGRAM C

WEATHER Overcast 15°
Pluvius

WATER LEVEL / WELL DATA

WELL DEPTH 155.30 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.27 FT

PROTECTIVE CASING/WELL DIFF. -0.03 FT

WATER DEPTH 127.66 FT

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS) 125.36

HEIGHT OF WATER COLUMN 27.70 FT X
16 GAL/FT (2 IN)
65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

18 GAL/VOL

64 TOTAL GAL PURGED

170

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO
☒ ☐
☒ ☐
☒ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

@ 18 GAL

@ 36 GAL

@ 48 GAL

@ 64 GAL

@ GAL

TEMP, DEG C

10.0

9.3

10.0

11.0

PH, UNITS

7.6

7.5

7.0

7.0

SPECIFIC CONDUCTIVITY umhos/cm

461

445

466

449

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS# E3
2" 4" #
60 man

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2			961	022301C
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2			961	022301C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		962	070310C
CL	TT08	YES	4 DEG C	500 ML POLY		963	
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		964	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC	UM17	NO	NCL, 4 DEG C (3)40 ML VIAL			965	0212301C
BN/A	UM16	NO	4 DEG C (2) 1 L AG			968	0212301C
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

- used historical volumes
pump 4 gallons volumes from well by purging
10 gallons waiting 10 min and purging 18.

SIGNATURE: Daniel D. Doral
RECEIVED BY: Nancy E. Rota

9771.
Elev = 913.8

RISER
Elev. = 916.00

GW
Elev. = 777.65

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8202A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12-9-91

SITE ID ELN-82-02A

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0800 END 0900

PROGRAM C

WEATHER prt. sunny, 30°S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.15 FT

PROTECTIVE
CASING/WELL DIFF. 40.02 FT

WELL DEPTH 144.65 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 138.35 FT

WELL
DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION 136.24 (BGS)

HEIGHT OF
WATER COLUMN 6.3 FT

0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

27 GAL/VOL

135 TOTAL GAL PURGED

131

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.8 PPM

WELL MOUTH 0.8 PPM

PURGE DATA

PURGE VOLUME

27 GAL

54 GAL

81 GAL

108 GAL

135 GAL

TEMP, DEG C

9.6

9.8

9.3

9.3/10.1

10.2

pH, UNITS

6.9

6.9

6.7

6.7

6.6

SPECIFIC CONDUCTIVITY umhos/cm

1.32

1.32

1.32

1.32

1.32

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

3 rpm

ANALYTICAL PARAMETERS

ANALYTICAL PARAMETERS	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2			970	022850.C
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TFIO	YES	H2SO4 TO pH<2	500 ML POLY		970	022850.C
CL	TT08	YES	4 DEG C	500 ML POLY		971	07030.C
SO4	TT08	YES	4 DEG C			972	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		973	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		974	022850.C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		977	022850.C
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used historical volumes

-after pumping 133 gal., recharge? seemed unusually

slow. Markings on inside of well labeled it dog.

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

and
elev = 914.6

riser
elev = 916.62

GW
elev = 777.62

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8202B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12.27.91

SITE ID ELN-82-02B

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0815 END 0930

PROGRAM C

WEATHER prt. sunny, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 152.20 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.10 FT

PROTECTIVE CASING/WELL DIFF. 0.22 FT

WATER DEPTH 138.94 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 136.80

HEIGHT OF WATER COLUMN 13.26 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

28 GAL/VOL

140 TOTAL GAL PURGED

138

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: cap

PURGE H2O CONTAINED? ☐ YES ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 0.8 PPM

WELL MOUTH 0.8 PPM

PURGE DATA

PURGE VOLUME

25 34 45 53 65
2.28 GAL 2.54 GAL 2.84 GAL 2.12 GAL 2.140 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.3 9.6 9.5 9.2 9.2
6.9 6.4 7.0 6.5 6.8
11.3 11.44 11.42 11.41 11.45

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

SUBMERSIBLE PUMP

GRUNDFOS#

BAILER

2" 4" #

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED 1 L POLY

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

FSS lot #

<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			979			022280.0
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2			979			011250.0
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		980			020210.0
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		981			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C						
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		982			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C						
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL						
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY						
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			983	984	985	021230.0
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG			986	987		020210.0
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM					

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)

-used historical volumes

SIGNATURE:

RECEIVED BY:

Nancy E. Rofa

ord elev = 914.2

riser elev. = 916.19

GW elev = 777.63

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 0

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8202C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-82-02C

JOB NUMBER

6853-04

SAMPLING DATE

12-9-91

LOCATION

ACTIVITY START 0730 END 0800

PROGRAM

C

FILE NAME

CGW

WEATHER

30's, prt. sunny

WATER LEVEL / WELL DATA

WELL DEPTH 163.85 FT

MEASURED

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP (FROM GROUND)

0.15 FT

PROTECTIVE

CASING/WELL DIFF.

-0.01 FT

WATER DEPTH 138.56 FT

HISTORICAL

WELL DIAMETER 2 INCH

GROUNDWATER

ELEVATION

136.42

HEIGHT OF

WATER COLUMN 25.3 FT

16 GAL/FT (2 IN)
1.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
1 GAL/FT (8 IN)

GAL/VOL

33

TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: cap

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.2 PPM

PURGE DATA

PURGE VOLUME

@ 6 GAL

@ 15 GAL

@ 27 GAL

@ GAL

@ GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.7

10.2

10.6

6.8

6.8

6.8

947

997

969

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

PERISTALTIC PUMP

ISCO #

POTABLE WATER

ELECTRIC COND. PROBE

SUBMERSIBLE PUMP

GRUNDFOS#

LIQUINOX

FLOAT ACTIVATED

BAILER

2" 4" #

STEAM CLEANING

PRESSURE TRANSDUCER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

COLLECTED

988

022350.C

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

988

022350.C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

988

022350.C

CL

TT08

YES

4 DEG C

500 ML POLY

988

022350.C

SO4

TT08

YES

4 DEG C

500 ML POLY

988

022350.C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

988

022350.C

TDS

USEPA 160.1

NO

4 DEG C

988

022350.C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

988

022350.C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

988

022350.C

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

988

022350.C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

988

022350.C

NG

99

NO

4 DEG C

1 L AG

988

022350.C

NAM

UN06

NO

4 DEG C

1 L AG

988

022350.C

DNT

UN26

NO

4 DEG C

1 L AG

988

022350.C

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

98

grd. elev = 925.3

riser elev = 926.93

GW elev = 777.13

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8203C

PROJECT: USATHAMA-BAAP

SITE TYPE

WELL

SITE ID: ELN-82-03C

JOB NUMBER

6853-04

SAMPLING DATE

11/25/91

LOCATION

ACTIVITY

START: 0830 END: 1030

PROGRAM

C

FILE NAME

CSW

WEATHER

clearcast 20's

WATER LEVEL / WELL DATA

WELL DEPTH

177.0 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

179.75 FT

HEIGHT OF WATER COLUMN

27.3 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

33 GAL/VOL

145 TOTAL GAL PURGED

1.74 FT

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PROTECTIVE CASING/WELL DIFF.

7.02 FT

GROUNDWATER ELEVATION (BGS)

148.03

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: C.C.P.

PURGE DATA

PURGE VOLUME

@ 33 GAL

@ 66 GAL

@ 91 GAL

@ 132 GAL

@ 165 GAL

TEMP, DEG C

8.5

9.6

9.1

8.8

9.1

PH, UNITS

7.5

7.4

7.5

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

592

582

572

571

561

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROSE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

☒ PP METALS (SPECIFIED BELOW)

☒ TAL METALS (SPECIFIED BELOW)

CA SS16 YES HNO3 TO pH<2

NA SS16 YES HNO3 TO pH<2

CD SS16 YES HNO3 TO pH<2

CR SS16 YES HNO3 TO pH<2

HG SB03 YES HNO3 TO pH<2

PB SD24 YES HNO3 TO pH<2

NI SS16 YES HNO3 TO pH<2

BA SS16 YES HNO3 TO pH<2

HARD USEPA 130.2 YES HNO3 TO pH<2

NIT TF10 YES H2SO4 TO pH<2

CL TT08 YES 4 DEG C

SO4 TT08 YES 4 DEG C

ALK USEPA 310.1 NO 4 DEG C

TDS USEPA 160.1 NO 4 DEG C

TOC USEPA 415.1 NO H2SO4 TO pH<2

NH3N2 USEPA 350.2 NO H2SO4 TO pH<2

VOC UM17 NO HCL, 4 DEG C

BN/A UM16 NO 4 DEG C

NG 99 NO 4 DEG C

NAM UN06 NO 4 DEG C

DNT UW26 NO 4 DEG C

TPH USEPA 412.1 NO H2SO4 TO pH<2

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

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HNO3 TO pH<2

HNO3 TO pH<2

1 L POLY

1 L POLY

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0227601C

0227601C

0227601C

0227601C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:CP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:CP)

-used historical volumes

SIGNATURE:

RECEIVED BY:

Nancy E.

AND Gifford Darr

sampled 02-03C to be 02-03B

Time: 2:10:30

grd. elev. = 721.7

user elev. = 903.72

GW elev. = 778.20

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8204A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID ELN-82-04A

JOB NUMBER 6853-04

SAMPLING DATE 12.5.91

LOCATION ACTIVITY START 0800 END 0830

PROGRAM C

FILE NAME CGW

WEATHER Snow 20°F

WATER LEVEL / WELL DATA

WELL DEPTH 152.32 FT

MEASURED HISTORICAL

TOP OF WELL TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.97 FT

PROTECTIVE CASING/WELL DIFF.

-0.06 FT

WATER DEPTH 145.52 FT

WELL DIAMETER 2 INCH 4 INCH 6 INCH

GROUNDWATER ELEVATION (BGS)

143.61

HEIGHT OF WATER COLUMN 6.8 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)

GAL/VOL

1/4 TOTAL GAL PURGED

137

WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: cap

PURGE H2O CONTAINED? YES NO

WELL MATERIAL PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

0.25 GAL

0 GAL

0 GAL

0 GAL

0 GAL

TEMP, DEG C

pH, UNITS (pH paper)

SPECIFIC CONDUCTIVITY umhos/cm

6

601

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRINDS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIDUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY	12.8.91	1024 / 0222501C
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CO	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	SB03	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2		12.8.91	1024 / 0222501C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY	12.8.91	1025 / 0222501C
CL	TT08	YES	4 DEG C	500 ML POLY	12.8.91	1026 / 0222501C
SO4	TT08	YES	4 DEG C	500 ML POLY	12.8.91	1027 / 0222501C
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	12.8.91	1028 / 0222501C
TDS	USEPA 160.1	NO	4 DEG C	500 ML POLY	12.8.91	1029 / 0222501C
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	12.8.91	1030 / 0222501C
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	12.8.91	1031 / 0222501C
VOC	UM17	NO	4 DEG C	(3)40 ML VIAL	12.8.91	1032 / 0222501C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG	12.8.91	1033 / 0222501C
NG	99	NO	4 DEG C	1 L AG	12.8.91	1034 / 0222501C
NAH	UN06	NO	4 DEG C	1 L AG	12.8.91	1035 / 0222501C
DNT	UN26	NO	4 DEG C	1 L AG	12.8.91	1036 / 0222501C
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	12.8.91	1037 / 0222501C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
* copy of original - see attached
- would not purge w/ pump
- retrieved 1 bailer full then no more
(too salty) 12.4.91
SIGNATURE: [Signature]
RECEIVED BY: Nancy E. Rofa

830) - 12.8.91 attempts on bailing, only retrieved 500 ml -> CI/SO4 12.5.91
130) - 12.6.91 returned for one more attempt. was able to collect VOC's but they were not pre-preserved with HCL. Also got NIT and ALK/TDS.
00) - 12.8.91 N. Rofa - I vaulted returned to finish sampling. collected rest of parameters

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8204A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

ELN-82-04A

JOB NUMBER

6853-04

SAMPLING DATE

12/5/91

LOCATION

START 0800 END 0830

PROGRAM

C

FILE NAME

CSW

WEATHER

SNOW 20F

windy

WATER LEVEL / WELL DATA

WELL DEPTH 153.32 FT

MEASURED

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.97 FT

PROTECTIVE
CASING/WELL DIFF.

-1.06 FT

WATER DEPTH 45.52 FT

HISTORICAL

WELL DIAMETER
2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

143.61

HEIGHT OF

WATER COLUMN 6.8 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

GAL/VOL

TOTAL GAL PURGED

139

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

PURGE DATA

PURGE VOLUME

0.25 GAL

GAL

GAL

GAL

GAL

TEMP, DEG C

PH, UNITS (PH PAPER)

SPECIFIC CONDUCTIVITY umhos/cm

6.0

601

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEDS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2	1 L POLY		ESS 107 #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2			1024 / 1025 / 1026 / 1027 / 1028 / 1029 / 1030 / 1031 / 1032 / 1033 / 1034 / 1035 / 1036 / 1037 / 1038 / 1039 / 1040 / 1041 / 1042 / 1043 / 1044 / 1045 / 1046 / 1047 / 1048 / 1049 / 1050 / 1051 / 1052 / 1053 / 1054 / 1055 / 1056 / 1057 / 1058 / 1059 / 1060 / 1061 / 1062 / 1063 / 1064 / 1065 / 1066 / 1067 / 1068 / 1069 / 1070 / 1071 / 1072 / 1073 / 1074 / 1075 / 1076 / 1077 / 1078 / 1079 / 1080 / 1081 / 1082 / 1083 / 1084 / 1085 / 1086 / 1087 / 1088 / 1089 / 1090 / 1091 / 1092 / 1093 / 1094 / 1095 / 1096 / 1097 / 1098 / 1099 / 1100
CA	YES	HNO3 TO PH<2			
NA	YES	HNO3 TO PH<2			
CD	YES	HNO3 TO PH<2			
CR	YES	HNO3 TO PH<2			
HG	YES	HNO3 TO PH<2			
PB	YES	HNO3 TO PH<2			
NI	YES	HNO3 TO PH<2			
BA	YES	HNO3 TO PH<2			
HARD	YES	HNO3 TO PH<2			
NIT	YES	H2SO4 TO PH<2	500 ML POLY		
CL	YES	4 DEG C	500 ML POLY		
SO4	YES	4 DEG C	500 ML POLY		
ALK	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO PH<2	(3)40 ML VIAL		
NH3N2	NO	H2SO4 TO PH<2	500 ML POLY		
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	NO	4 DEG C	(2) 1 L AG		
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H2SO4 TO PH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)

would not pump w/ pump
retrieved 1 bucket full then no more
dry well 12-4-91

SIGNATURE:

RECEIVED BY:

W. H. H. E.

*-contracted 5' from well - minimum recording

$$G_{\text{low}} = 77739$$

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PAGE _____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT	USATHAMA-BAAP										
SITE ID	E	L	N	-	8	2	-	0	4	C	
LOCATION ACTIVITY	START		0950					END		1030	

SITE TYPE	WELL	
JOB NUMBER	6853-04	
PROGRAM	C	

SAMPLING DATE	12-5-91
FILE NAME	CGW
WEATHER	SNOW, 20°F

WATER LEVEL / WELL DATA

[illegible]

PURGE DATA

PURGE VOLUME	a <u>25</u> GAL	a <u>35</u> GAL	a _____ GAL	a _____ GAL	a _____ GAL
TEMP, DEG C	_____	_____	_____	_____	_____
PH, UNITS (pH paper)	<u>6</u>	<u>6</u>	_____	_____	_____
SPECIFIC CONDUCTIVITY umhos/cm	<u>411</u>	<u>424</u>	_____	_____	_____
_____	_____	_____	_____	_____	_____

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED _____

☐ TURBID

☐ OOCR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING		SAMPLING		EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP	ISCO # _____	<input checked="" type="checkbox"/>	POTABLE WATER	<input checked="" type="checkbox"/>	ELECTRIC COND. PROBE
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP	GRUNDOS# _____	<input type="checkbox"/>	LIQUINOX	<input type="checkbox"/>	FLOAT ACTIVATED
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BAILER	2" <input checked="" type="checkbox"/> 4" <input type="checkbox"/> # _____	<input type="checkbox"/>	STEAM CLEANING	<input type="checkbox"/>	PRESSURE TRANSDUCER
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PVC/SILICON TUBING					
<input type="checkbox"/>	<input checked="" type="checkbox"/>	IN-LINE/DISPOSABLE FILTER	_____				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	OTHER	_____				
				NUMBER OF FILTERS USED		1	

ANALYTICAL PARAMETERS

ANALYTICAL PARAMETERS		METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS			
PP METALS (SPECIFIED BELOW)			YES	HNO3 TO pH<2	1 L POLY					ESS 1st #
TAL METALS (SPECIFIED BELOW)			YES	HNO3 TO pH<2						
CA	SS16	YES	HNO3 TO pH<2				1042			022260
NA	SS16	YES	HNO3 TO pH<2							
CD	SS16	YES	HNO3 TO pH<2							
CR	SS16	YES	HNO3 TO pH<2							
HG	S803	YES	HNO3 TO pH<2							
PB	SD24	YES	HNO3 TO pH<2							
NI	SS16	YES	HNO3 TO pH<2							
BA	SS16	YES	HNO3 TO pH<2							
HARD	USEPA 130.2	YES	HNO3 TO pH<2				1042			022260
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			1043			070310
CL	TT08	YES	4 DEG C	500 ML POLY			1044			
SO4	TT08	YES	4 DEG C							
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			1045			
TDS	USEPA 160.1	NO	4 DEG C							
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL						
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY						
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			1046	1047	1048	021230
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			1049	1050		012610
NG	99	NO	4 DEG C	1 L AG						
NAM	UN06	NO	4 DEG C	1 L AG						
DNT	UW26	NO	4 DEG C	1 L AG						
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM						

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03.99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03.99 (TL:GFAA, K/NA:ICP)

+ subtract 43 g from wt indicator reading.

SIGNATURE: _____ mm/pc
RECEIVED BY: Nancy E. [Redacted]

grd elev = 925.5

first elev = 927.45

GW elev = 777.20

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8203B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID ELN-82-03B

JOB NUMBER 6853-04

SAMPLING DATE 11-25-91

LOCATION ACTIVITY START 0850 (MP) END 0915

PROGRAM C

FILE NAME USW

WEATHER OVERCAST 20.5

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.04 FT

PROTECTIVE CASING/WELL DIFF. 2.04 FT

WELL DEPTH 151.95 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 151.25 FT

WELL DIAMETER ☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 148.22

HEIGHT OF WATER COLUMN 4.7 FT

☐ 0.16 GAL/FT (2 IN)
☒ 0.65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

34 GAL/VOL

88 TOTAL GAL PURGED (171)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO
☒ ☐
☒ ☐
☒ ☐
☒ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME	a 34 GAL	a 48 GAL	a 88 GAL	a GAL	a GAL
TEMP, DEG C	9.1	7.5	-00.1		
PH, UNITS	7.2	7.4	7.4		
SPECIFIC CONDUCTIVITY umhos/cm	946	843	802		

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1006 / 0222801C
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1006 / 0222801C	
CL TT08	YES	4 DEG C	500 ML POLY	1007 / 0793101C	
SO4 TT08	YES	4 DEG C		1008 /	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1009 /	
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		1010 / 1011 / 1012 / 0212301C	
BN/A UM16	NO	4 DEG C (2) 1 L AG		1013 / 1014 /	02128101C
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volume

SIGNATURE:

RECEIVED BY:

[Signature]
Dorothy E. Potter

See other side HNW Baffing dead sample 0003 C before 02-03B Time: 1300

CHL
elev. = 871.8

Riser
elev. = 873.96

GW
elev. = 774.07

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID RPM-91-01
LOCATION ACTIVITY START 1430 END 1530

FIELD SAMPLING NUMBER RPM9101
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12-12-91
FILE NAME CGW
WEATHER Rain 40°

WATER LEVEL / WELL DATA

WELL DEPTH 108.1 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 99.8 FT
HEIGHT OF WATER COLUMN 8 FT X ☐ .16 GAL/FT (2 IN) ☐ .65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) ☐ GAL/FT (IN)
PURGE H₂O CONTAINED? ☐ YES ☒ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR PPM WELL MOUTH PPM
TOP OF WELL ☐ TOP OF CASING ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) 2.5± FT PROTECTIVE CASING/WELL DIFF. -1.9 FT
WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH GROUNDWATER ELEVATION (BGS) 97.58
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: _____

PURGE DATA

PURGE VOLUME	@ 11 GAL	@ 22 GAL	@ 33 GAL	@ 44 GAL	@ 55 GAL
TEMP, DEG C	<u>10.3</u>	<u>10.4</u>	<u>10.3</u>	<u>10.4</u>	<u>10.6</u>
PH, UNITS	<u>7.4</u>	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>555</u>	<u>562</u>	<u>568</u>	<u>561</u>	<u>570</u>

SAMPLE OBSERVATIONS

☒ CLEAR when bar 25
☒ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ PERISTALTIC PUMP ☐ ISCO # _____
SAMPLING ☒ SUBMERSIBLE PUMP ☐ GRUNDFOS # 2" ☐ 4" # _____
BAILER ☐ PVC/SILICON TUBING ☐ IN-LINE/DISPOSABLE FILTER _____
OTHER _____
DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☐ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2			
CA SS16	YES	HNO ₃ TO pH<2			
NA SS16	YES	HNO ₃ TO pH<2			
CD SS16	YES	HNO ₃ TO pH<2			
CR SS16	YES	HNO ₃ TO pH<2			
HG SB03	YES	HNO ₃ TO pH<2			
PB SD24	YES	HNO ₃ TO pH<2			
NI SS16	YES	HNO ₃ TO pH<2			
BA SS16	YES	HNO ₃ TO pH<2			
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO ₄ TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY			
VOC UN17	NO	NCL, 4 DEG C (3)40 ML VIAL			
BN/A UN16	NO	4 DEG C (2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UN26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

- used volumes from development

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

grd. elev = 785.2

riser elev = 888.65

GW elev = 775.12

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

RPM8901

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID RPM-89-01

JOB NUMBER 6853-04

SAMPLING DATE 12.12.91

LOCATION ACTIVITY START 1100 END 1230

PROGRAM C

FILE NAME CGW

WEATHER rain, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 124± FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.6± FT

PROTECTIVE CASING/WELL DIFF. - .18 FT

WATER DEPTH 113.53 FT

WELL DIAMETER 2 INCH

GROUNDWATER ELEVATION (BGS)

111.11

HEIGHT OF WATER COLUMN 11 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

18 GAL/VOL

90 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.3 PPM

PURGE DATA

PURGE VOLUME

18 GAL

56 GAL

54 GAL

72 GAL

90 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

N/A

11.1

12.9

11.0

12.7

N/A

7.6

7.6

7.6

7.6

N/A

430

430

430

430

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS W #

☐ PP METALS (SPECIFIED BELOW)
☐ TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

☐

☐

☐

☐

☐

CA

SS16

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

NA

SS16

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

CD

SS16

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

CR

SS16

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

HG

SB03

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

PB

SD24

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

NI

SS16

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

BA

SS16

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

HARD

USEPA 130.2

YES

HNO3 TO pH<2

☐

☐

☐

☐

☐

NI-T

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☐

☐

☐

☐

☐

CL

TT08

YES

4 DEG C

500 ML POLY

☐

☐

☐

☐

☐

SO4

TT08

YES

4 DEG C

☐

☐

☐

☐

☐

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☐

☐

☐

☐

☐

TDS

USEPA 160.1

NO

4 DEG C

☐

☐

☐

☐

☐

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☐

☐

☐

☐

☐

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☐

☐

☐

☐

☐

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☐

☐

☐

☐

☐

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☐

☐

☐

☐

☐

NG

99

NO

4 DEG C

1 L AG

☐

☐

☐

☐

☐

NAM

UN06

NO

4 DEG C

1 L AG

☐

☐

grl. elev. = 873.0

riser elev. = 874.76

GW elev. = 775.02

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PAGE 01

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

RPM3902

PROJECT USATHANA-BAAP

SITE TYPE

WELL

SITE ID RPM-89-02

JOB NUMBER

6853-04

LOCATION ACTIVITY

START 0800 END 1000

PROGRAM

C

SAMPLING DATE

12-12-91

FILE NAME

CGW

WEATHER

12-12-91

WATER LEVEL / WELL DATA

WELL DEPTH 14.4 FT

MEASURED HISTORICAL

TOP OF WELL TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.07 FT

PROTECTIVE CASING/WELL DIFF.

- C 19 FT

WATER DEPTH 94.74 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)

24 GAL/VOL

WELL DIAMETER 2 INCH 4 INCH 6 INCH

GROUNDWATER ELEVATION (BGGS)

97.86

HEIGHT OF WATER COLUMN 14.66 FT

121 TOTAL GAL PURGED

121

WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: CAP

YES NO N/A

PURGE H2O CONTAINED? YES NO

WELL MATERIAL PVC SS

AMBIENT AIR 1.5 PPM

WELL MOUTH 2.0 PPM

PURGE DATA

PURGE VOLUME

22.4 GAL 4.8 GAL 0.0 GAL 8.5 GAL 121 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

10.5 10.4 10.3 10.3

SAMPLE OBSERVATIONS

CLEAR CLOUDY COLORED TURBID ODOR OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP SUBMERSIBLE PUMP BAILER PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER

EQUIPMENT ID

ISCO # GRUNDFOS # 2" 4" #

DECON FLUIDS USED

POTABLE WATER LIQUINOX STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE FLOAT ACTIVATED PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-see attached for volumes

SIGNATURE: *[Signature]*

RECEIVED BY: *[Signature]*

grl
elev. = 861.5

NSPR
elev. = 862.77

GW
elev. = 776.24

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

NPM87011

SITE ID

NPM-87-011

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

11-25-91

LOCATION

ACTIVITY

START 0745 END 0900

PROGRAM

C

FILE NAME

CGW

WEATHER

11/25/91

WATER LEVEL / WELL DATA

WELL DEPTH 100.43 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.7 FT

PROTECTIVE
CASING/WELL DIFF.

-0.32 FT

WATER DEPTH 86.73 FT

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

85.35

HEIGHT OF
WATER COLUMN 13.70 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

22.6 GAL/VOL

113 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES
NO
N/A

PURGE H2O CONTAINED?
YES
NO

WELL MATERIAL
PVC
SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

08:15

08:19.5

08:24

08:28.5

08:33

22 GAL

45 GAL

67 GAL

90 GAL

113 GAL

TEMP, DEG C

9.1

10.0

9.8

10.3

10.2

pH, UNITS

7.5

7.0

7.0

7.0

7.0

SPECIFIC CONDUCTIVITY umhos/cm

970 976

661

667

670

673

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 1/4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CO	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C	500 ML POLY			
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C	500 ML POLY			
TOC	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GLW			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- see attached for volume calculations

SIGNATURE:

RECEIVED BY:

Nancy E. Kropa

red. elev. = 908.32

riser elev. = 913.50

GW elev. = 777.23

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID NAN-81-01A
 LOCATION ACTIVITY START 1245 END 1345

FIELD SAMPLING NUMBER NAN8101A
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-11-91
 FILE NAME CGW
 WEATHER Sunny, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 144 FT MEASURED
 WATER DEPTH 134.25 FT HISTORICAL
 HEIGHT OF WATER COLUMN 8 FT
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR 0.4 PPM
 WELL MOUTH 0.6 PPM
 TOP OF WELL TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 2.33 FT
 PROTECTIVE CASING/WELL DIFF. +0.31 FT
 WELL DIAMETER 2 INCH 4 INCH 6 INCH
 GROUNDWATER ELEVATION (BGS) 134.25
 16 GAL/FT (2 IN) 15 GAL/VOL
 6.5 GAL/FT (4 IN) 75 TOTAL GAL PURGED (75)
 1.5 GAL/FT (6 IN)
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A
 CONCRETE COLLAR INTACT YES NO N/A
 WELL LOCKED YES NO N/A
 OTHER: CAP

PURGE DATA

PURGE VOLUME	25 GAL	30 GAL	45 GAL	60 GAL	75 GAL
TEMP, DEG C	10.3	10.3	10.4	10.4	10.7
pH, UNITS	7.9	7.8	7.7	7.7	7.6
SPECIFIC CONDUCTIVITY umhos/cm	635	639	641	639	639

SAMPLE OBSERVATIONS
 CLEAR (pump)
 CLOUDY
 COLORED
 TURBID (bailer)
 OOR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING EQUIPMENT ID
 PERISTALTIC PUMP ISCO #
 SUBMERSIBLE PUMP GROUNDOS#
 BAILER 12" 4" #
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 DECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2		1762	022280C
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2		1762	022280C
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2		1762	022280C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1769	070310C
CL TT08	YES	4 DEG C	500 ML POLY	1770	
SO4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1771	
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	1772	1773
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 -used historical volumes

SIGNATURE: [Signature]
 RECEIVED BY: W. Harry E. [Signature]

and elev = ~912.5 riser elev. = 914.99

GW elev = 777.14

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

NAN8102B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

NAN-81-02B

JOB NUMBER

6853-04

SAMPLING DATE

12-11-91

LOCATION

START 0800 END 0845

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE

CASING STICK-UP
(FROM GROUND)

1.14 FT

PROTECTIVE

CASING/WELL DIFF.

6.50 FT

WELL DEPTH

145 FT

☒ MEASURED

☐ HISTORICAL

WATER DEPTH

137.65 FT

WELL DIAMETER

☐ 2 INCH

☒ 4 INCH

☐ 6 INCH

GROUNDWATER

ELEVATION

137.21

HEIGHT OF

WATER COLUMN

7.15 FT

☒ 1.16 GAL/FT (2 IN)

☒ 1.65 GAL/FT (4 IN)

☒ 1.5 GAL/FT (6 IN)

☐ GAL/FT (IN)

40 GAL/VOL

30 TOTAL GAL PURGED

30

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CWP

YES NO N/A

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

PURGE H2O CONTAINED?

☐ YES

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.4 PPM

PURGE DATA

PURGE VOLUME

2.0 GAL

2.10 GAL

2.18 GAL

2.24 GAL

2.30 GAL

TEMP, DEG C

9.8

10.5

10.7

10.8

10.8

pH, UNITS

8.0

7.8

7.7

7.6

7.5

SPECIFIC CONDUCTIVITY umhos/cm

258

247

224

223

237

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GROUNDOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS 14 #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CO

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2 (3)40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2 500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C (3)40 ML VIAL

BN/A

UM16

NO

4 DEG C (2) 1 L AG

NG

99

NO

4 DEG C 1 L AG

NAM

UN06

NO

4 DEG C 1 L AG

DNT

UN26

NO

4 DEG C 1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2 1 L GUM

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE

RECEIVED BY:

Nancy E. Rota

2nd elev = -913.1

1st elev = 915.21

GW elev. = 777.04

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

NAN81038

SITE ID NAN-81-038

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

12-11-91

LOCATION

ACTIVITY

START 0900 END 0945

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 145 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.02 FT

PROTECTIVE CASING/WELL DIFF.

10.31 FT

WATER DEPTH 138.17 FT

WELL DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS)

137.46

HEIGHT OF WATER COLUMN

6.63 FT

☐ 16 GAL/FT (2 IN)
☐ 65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

30

TOTAL GAL PURGED

30

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

PURGE H2O CONTAINED?
☐ YES
☒ NO

WELL MATERIAL
☒ PVC
☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.4 PPM

PURGE DATA

PURGE VOLUME

2.12 GAL

2.12 GAL

2.18 GAL

2.24 GAL

2.30 GAL

TEMP, DEG C

10.1

10.8

11.1

11.0

11.0

pH, UNITS

7.4

7.8

7.7

7.7

7.7

SPECIFIC CONDUCTIVITY umhos/cm

519

520

520

520

521

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GROUND#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	MNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	MNO3 TO pH<2				
CA SS16	YES	MNO3 TO pH<2		1782		0222601C
NA SS16	YES	MNO3 TO pH<2				
CD SS16	YES	MNO3 TO pH<2				
CR SS16	YES	MNO3 TO pH<2				
HG SB03	YES	MNO3 TO pH<2				
PB SD24	YES	MNO3 TO pH<2		1782		0222601C
NI SS16	YES	MNO3 TO pH<2				
BA SS16	YES	MNO3 TO pH<2				
HARD USEPA 130.2	YES	MNO3 TO pH<2		1782		0222601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1783		0203101C
CL TT08	YES	4 DEG C	500 ML POLY	1784		
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1785		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	NCL, 4 DEG C (3)40 ML VIAL		1786	1787	1788 0212301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE:

RECEIVED BY:

Wendy E. [Signature]

ard
elev = 913.2

riser
elev. = 915.02

GW
elev. = 777.10

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

NAN8103C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID NAN-81-03C

JOB NUMBER 6853-04

SAMPLING DATE 12-11-91

LOCATION ACTIVITY START 1000 END 1130

PROGRAM C

FILE NAME CGW

WEATHER Sunny, 40° S

WATER LEVEL / WELL DATA

WELL DEPTH 170 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND)

1.38 FT

PROTECTIVE CASING/WELL DIFF. -0.31 FT

WATER DEPTH 137.42 FT

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS) 136.85

HEIGHT OF WATER COLUMN 32.08 FT
X .16 GAL/FT (2 IN)
X .65 GAL/FT (4 IN)
X 1.5 GAL/FT (6 IN)
X GAL/FT (IN)

22 GAL/VOL

110 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME	21	27	37	45	53
	22 GAL	44 GAL	66 GAL	88 GAL	110 GAL
TEMP, DEG C	10.9	11.4	11.5	11.7	11.4
pH, UNITS	7.8	7.8	7.7	7.7	7.7
SPECIFIC CONDUCTIVITY umhos/cm	780	798	820	797	796

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2		1789		0222801C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2		1789		0222801C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2		1789		0222801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1790		0203101C
CL TT08	YES	4 DEG C	500 ML POLY	1791		
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1792		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	1793	1794	1795
BN/A UM16	NO	4 DEG C	(2) 1 L AG			0212301C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: [Signature]
RECEIVED BY: Nancy E. Roña

grt elev = 922.1

rser elev = 925.91

GW elev = 777.33

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID NAN-81-04B
 LOCATION ACTIVITY START 1500 END 1545

FIELD SAMPLING NUMBER NAN8104B
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12/1/91
 FILE NAME CGW
 WEATHER sunny, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 160 FT MEASURED TOP OF WELL TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 1.45 FT PROTECTIVE CASING/WELL DIFF. 0.32 FT
 WATER DEPTH 148.58 FT HISTORICAL
 HEIGHT OF WATER COLUMN 11 FT 16 GAL/FT (2 IN) 5 GAL/VOL 25 TOTAL GAL PURGED 25
 WELL DIAMETER 6 INCH GROUNDWATER ELEVATION (BGS) 147.45
 PURGE H2O CONTAINED? YES NO X YES NO X PVC SS AMBIENT AIR 0.4 PPM WELL MOUTH 0.4 PPM
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A CONCRETE COLLAR INTACT YES NO N/A WELL LOCKED YES NO N/A OTHER: cap

PURGE DATA

PURGE VOLUME	@ 5 GAL	@ 10 GAL	@ 15 GAL	@ 20 GAL	@ 25 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C	11.4	11.4	11.8	12.0	12.2	<input checked="" type="checkbox"/> CLEAR
PH, UNITS	7.4	7.8	7.7	7.7	7.7	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY umhos/cm	617	614	605	545	510	<input type="checkbox"/> COLORED
						<input type="checkbox"/> TURBID
						<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒ EQUIPMENT ID PERISTALTIC PUMP ISCO # SUBMERSIBLE PUMP GRUNDEOS# BAILER 2" 4" # PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER
 DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2		1796		0222801C
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2		1796		0222801C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2		1796		0222801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1797		0222801C
CL TT08	YES	4 DEG C	500 ML POLY	1798		
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1799		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	MCL, 4 DEG C (3)40 ML VIAL		1800	1801	1802 0222801C
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: [Signature]
 RECEIVED BY: Nancy E [Signature]

917
elev. = 922.8

riser
elev. = 925.25

GW
elev. = 777.14

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID NAN-81-04C
LOCATION ACTIVITY START 1600 END 1700

FIELD SAMPLING NUMBER NAN8104C
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12.11.91
FILE NAME CGW
WEATHER Sunny 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 166 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 148.11 FT
HEIGHT OF WATER COLUMN 18 FT
WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 146.35
PROTECTIVE CASING/WELL DIFF. -0.36 FT
PROTECTIVE CASING STICK-UP (FROM GROUND) 2.12 FT
TOTAL GAL PURGED 95
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: cap

PURGE DATA

PURGE VOLUME	<u>19</u> GAL	<u>39</u> GAL	<u>57</u> GAL	<u>76</u> GAL	<u>95</u> GAL
TEMP, DEG C	<u>12.5</u>	<u>10.7</u>	<u>10.7</u>	<u>10.4</u>	<u>10.6</u>
PH, UNITS	<u>8.0</u>	<u>7.8</u>	<u>7.8</u>	<u>7.8</u>	<u>7.8</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>402</u>	<u>467</u>	<u>467</u>	<u>467</u>	<u>470</u>

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
EQUIPMENT ID ISCO #
PERISTALTIC PUMP ☒
SUBMERSIBLE PUMP ☒
BAILER ☒
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☒
OTHER ☐
DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2			1803	0222801C
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2			1803	0222801C
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2			1803	0222801C
NIT	YES	H2SO4 TO pH<2	500 ML POLY		1804	0703101C
CL	YES	4 DEG C	500 ML POLY		1805	
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY		1806	
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		1807	0222301C
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GLM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)
-used historical volumes
-conc. arent with all broken up.
SIGNATURE: Nancy E. Rota
RECEIVED BY: Nancy E. Rota

7th
elev. = 924.3

riser
elev. = 925.99

GW
elev. = 860.36

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

0 P M 8 7 0 1

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

0 P m - 8 7 - 0 1

JOB NUMBER

6853-04

SAMPLING DATE

12.5.91

LOCATION

ACTIVITY

START 1200

END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

SNOW 20°F

WATER LEVEL / WELL DATA

WELL DEPTH

88

FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH

65.63

FT

HEIGHT OF

WATER COLUMN

22.37

X

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)=
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

37 GAL/VOL

34

TOTAL GAL PURGED

1.98

FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

63.90

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE DATA *

PURGE VOLUME

2 37 GAL

2 74 GAL

2 111 GAL

2 148 GAL

2 186 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED Brown
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐

☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

1528

0222801C

NA

SS16

YES

HNO3 TO pH<2

☒

CD

SS16

YES

HNO3 TO pH<2

☒

CR

SS16

YES

HNO3 TO pH<2

☒

HG

S803

YES

HNO3 TO pH<2

☒

PB

SD24

YES

HNO3 TO pH<2

☒

NI

SS16

YES

HNO3 TO pH<2

☒

BA

SS16

YES

HNO3 TO pH<2

☒

HARD

USEPA 130.2

YES

HNO3 TO pH<2

☒

1528

0222801C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

1529

0222801C

CL

TT08

YES

4 DEG C

500 ML POLY

☒

1530

0222801C

SO4

TT08

YES

4 DEG C

☒

1531

0222801C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☒

1532

1533

0222801C

TDS

USEPA 160.1

NO

4 DEG C

☒

1534

0222801C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☒

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☒

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☒

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☒

NG

99

NO

4 DEG C

1 L AG

☒

NAM

UN06

NO

4 DEG C

1 L AG

☒

DNT

UN26

NO

4 DEG C

1 L AG

☒

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

☒

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA

gnd elev. = 877.6

riser elev. = 879.46

GW elev. = 778.02

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

0PM8902

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID 0PM8902

JOB NUMBER

6853-04

SAMPLING DATE

11-24-91

LOCATION

ACTIVITY START 1300 END 1400

PROGRAM

C

FILE NAME

CGW

WEATHER

SUNNY 20°

WATER LEVEL / WELL DATA

WELL DEPTH 113.54 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.10 FT

PROTECTIVE CASING/WELL DIFF.

-0.15 FT

WATER DEPTH 101.44 FT

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

99.49

HEIGHT OF WATER COLUMN 12.10 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)

32.6 GAL/VOL

163

TOTAL GAL PURGED

155

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

1:17	1:23	1:29	1:35	1:41
2.33 GAL	2.66 GAL	2.99 GAL	2.132 GAL	2.163 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.6	8.9	8.9	9.1	9.4
6.9	6.6	6.7	6.7	6.6
251	454	462	460	466

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BATLER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
22" 14" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2			1535 / 0222801C
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2			1535 / 0222801C
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1536 / 0203101C
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		1537
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C			
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1538
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C			
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1539 / 1540 / 1541 / 0222801C
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)

-- see calculations for volumes

SIGNATURE:

[Signature]

RECEIVED BY:

Nancy E. Rofa

Grd. elev. = 928.2 riser elev. = 929.75

GW elev. = 777.00

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

OPM8903

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID OPM-89-03

JOB NUMBER

6853-04

SAMPLING DATE

12-6-91

LOCATION

ACTIVITY

START 1250930 END 1130

PROGRAM

C

FILE NAME

CGW

WEATHER

snow, 20°F

WATER LEVEL / WELL DATA

WELL DEPTH 162 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.15 FT

PROTECTIVE CASING/WELL DIFF.

-0.2 FT

WATER DEPTH 152.75 FT

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

151.1

HEIGHT OF WATER COLUMN 9.25 FT

☒ 0.16 GAL/FT (2 IN)
☒ 0.65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

1.0 GAL/VOL

TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

2 16 GAL

2 32 GAL

2 16 GAL

2 64 GAL

2 32 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

25

9.7

10.0

9.9

9.5

7.6

7.6

7.6

7.6

7.6

454

412

475

473

457

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☐ PP METALS (SPECIFIED BELOW)

☐ TAL METALS (SPECIFIED BELOW)

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

☐

1542

1543

1544

1545

0222801C

NA

SS16

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

CD

SS16

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

CR

SS16

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

HG

S803

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

PB

SD24

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

NI

SS16

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

BA

SS16

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

CL

TT08

YES

4 DEG C

500 ML POLY

☐

1542

1543

1544

1545

0222801C

SO4

TT08

YES

4 DEG C

500 ML POLY

☐

1542

1543

1544

1545

0222801C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☐

1542

1543

1544

1545

0222801C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

☐

1542

1543

1544

1545

0222801C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☐

1542

1543

1544

1545

0222801C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☐

1542

1543

1544

1545

0222801C

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☐

1542

1543

1544

1545

0222801C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☐

1542

1543

1544

1545

0222801C

NG

99

NO

4 DEG C

1 L AG

☐

1542

1543

1544

1545

0222801C

NAM

UN06

NO

4 DEG C

1 L AG

☐</

3rd
elev = 815.1riser
elev = 877.04GW
elev = 785.56

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 01AM-91-01

JOB NUMBER 6853-04

SAMPLING DATE 12-11-91

LOCATION ACTIVITY START 0815 END 0930

PROGRAM C

FILE NAME CGW

WEATHER CLEAR 30°

WATER LEVEL / WELL DATA

WELL DEPTH 97.92 FT

☒ MEASURED
☐ HISTORICAL☒ TOP OF WELL
☐ TOP OF CASINGPROTECTIVE
CASING STICK-UP
(FROM GROUND)

24.3 ± FT

PROTECTIVE
CASING/WELL DIFF.

-1.13 FT

WATER DEPTH 91.48 FT

WELL
DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCHGROUNDWATER
ELEVATION

89.18

HEIGHT OF
WATER COLUMN

6.44 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

11 GAL/VOL

55 TOTAL GAL PURGED

55

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAPYES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐PURGE H2O CONTAINED?
☐ YES ☒ NOWELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

@ 11 GAL

@ 22 GAL

@ 33 GAL

@ 44 GAL

@ 55 GAL

TEMP, DEG C

10.2

10.1

10.3

10.2

10.2

PH, UNITS

7.4

7.4

7.4

7.4

7.4

SPECIFIC CONDUCTIVITY umhos/cm

433

408

409

415

416

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

☐☐

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER☐ LIQUINOX☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE☐ FLOAT ACTIVATED☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHODVOLUME
REQUIREDSAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

<input type="checkbox"/>	PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY					
<input type="checkbox"/>	TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
<input type="checkbox"/>	CA	SS16	YES	HNO3 TO pH<2			1831			022501C
<input type="checkbox"/>	NA	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/>	CO	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/>	CR	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/>	HG	S803	YES	HNO3 TO pH<2						
<input type="checkbox"/>	PB	SD24	YES	HNO3 TO pH<2			1831			022501C
<input type="checkbox"/>	NI	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/>	BA	SS16	YES	HNO3 TO pH<2						
<input type="checkbox"/>	HARD	USEPA 130.2	YES	HNO3 TO pH<2			1831			022501C
<input type="checkbox"/>	NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1832			022501C
<input type="checkbox"/>	CL	TT08	YES	4 DEG C	500 ML POLY		1833			
<input type="checkbox"/>	SO4	TT08	YES	4 DEG C						
<input type="checkbox"/>	ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1834			
<input type="checkbox"/>	TDS	USEPA 160.1	NO	4 DEG C						
<input type="checkbox"/>	TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL					
<input type="checkbox"/>	NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY					
<input type="checkbox"/>	VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1835	1836	1837	022501C
<input type="checkbox"/>	BN/A	UM16	NO	4 DEG C	(2) 1 L AG					
<input type="checkbox"/>	NG	99	NO	4 DEG C	1 L AG					
<input type="checkbox"/>	NAM	UN06	NO	4 DEG C	1 L AG					
<input type="checkbox"/>	DNT	UN26	NO	4 DEG C	1 L AG					
<input type="checkbox"/>	TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM					

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, S803, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, S803, 99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: RIGS/AL/AB

RECEIVED BY: Nancy E. Potha

grd.
elev. = 872.2

msr
elev. = 874.38

GW
elev. = 786.01

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

01AM8901

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

01AM-89-01

JOB NUMBER

6853-04

SAMPLING DATE

12-11-91

LOCATION

ACTIVITY

START 1000

END

1130

PROGRAM

C

FILE NAME

CGW

WEATHER

CLEAR 70°

WATER LEVEL / WELL DATA

WELL DEPTH

100.48 FT

☒ MEASURED

☐ HISTORICAL

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

2.42

FT

PROTECTIVE

CASING/WELL DIFF.

- .11

WATER DEPTH

88.37 FT

WELL

DIAMETER

☐ 2 INCH

☐ 4 INCH

☐ 6 INCH

GROUNDWATER

ELEVATION

(BGS)

86.06

HEIGHT OF

WATER COLUMN

12.11

X

☐ .16 GAL/FT (2 IN)

☐ .65 GAL/FT (4 IN)

☐ 1.5 GAL/FT (6 IN)

☐ GAL/FT (IN)

20 GAL/VOL

100 TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CAP

YES

NO

N/A

PURGE H2O CONTAINED?

☐ YES

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

PPH

WELL MOUTH

PPH

PURGE DATA

PURGE VOLUME

20 GAL

40 GAL

60 GAL

80 GAL

100 GAL

TEMP, DEG C

10.2

10.3

10.4

10.4

10.5

pH, UNITS

7.3

7.3

7.3

7.3

7.3

SPECIFIC CONDUCTIVITY umhos/cm

601

617

610

616

617

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

S803

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

CL

TF10

YES

H2SO4 TO pH<2

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2 (3) 4 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2 500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C (3) 4 ML VIAL

BN/A

UM16

NO

(2) 1 L AG

NG

99

NO

1 L AG

NAM

UN06

NO

1 L AG

DNT

UN26

NO

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2 1 L GUM

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

- see attached for volumes

SIGNATURE:

Paul G. Smith / JBC

RECEIVED BY:

Nancy E

field elev. = 872.4

riser elev. = 874.91

GW elev. = 785.71

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

0AM8902

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 0AM-89-02

JOB NUMBER 6853-04

SAMPLING DATE 12.11.91

LOCATION ACTIVITY START 1230 END 1330

PROGRAM C

FILE NAME CGW

WEATHER SUNNY 30°F

WATER LEVEL / WELL DATA

WELL DEPTH 100.96 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.65 FT

PROTECTIVE CASING/WELL DIFF. - .27 FT

WATER DEPTH 89.20 FT

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

86.82

HEIGHT OF WATER COLUMN 11.76 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

19.5 GAL/VOL

100 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: CAP

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED? ☐ YES ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR - PPM

WELL MOUTH - PPM

PURGE DATA

PURGE VOLUME

@ 20 GAL

@ 40 GAL

@ 60 GAL

@ 80 GAL

@ 100 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

10.8

10.9

11.1

11.1

11.0

7.4

7.3

7.3

7.2

7.2

623

621

609

614

626

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

1817

1817

022801C

TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

1817

1817

022801C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

1817

1817

022801C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

1817

1817

022801C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

1817

1817

022801C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

1817

1817

022801C

HG

S803

YES

HNO3 TO pH<2

1 L AG

1817

1817

022801C

PB

SD24

YES

HNO3 TO pH<2

1 L AG

1817

1817

022801C

NI

SS16

YES

HNO3 TO pH<2

1 L AG

1817

1817

022801C

BA

SS16

YES

HNO3 TO pH<2

1 L AG

1817

1817

022801C

HARD

USEPA 130.2

YES

H2SO4 TO pH<2

500 ML POLY

1817

1817

022801C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

1817

1817

022801C

CL

TT08

YES

4 DEG C

500 ML POLY

1817

1817

022801C

SO4

TT08

YES

4 DEG C

500 ML POLY

1817

1817

022801C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

1817

1817

022801C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

1817

1817

022801C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

1817

1817

022801C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

1817

1817

022801C

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

1817

1817

022801C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

1817

1817

022801C

NG

99

NO

4 DEG C

1 L AG

1817

1817

022801C

NAM

UN06

NO

4 DEG C

1 L AG

1817

1817

022801C

DNT

UN26

NO

4 DEG C

1 L AG

1817

1817

022801C

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

1817

1817

022801C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

grl
elev. = 874.27

rser
elev. = 874.27

GW
elev. = 785.59

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FTM 89-01

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

FTM-89-01

JOB NUMBER

6853-04

SAMPLING DATE

12-11-91

LOCATION
ACTIVITY

START 1530 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH

99.32 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.10 FT

PROTECTIVE
CASING/WELL DIFF.

- .20 FT

WATER DEPTH

88.68 FT

WELL
DIAMETER

☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

86.78

HEIGHT OF
WATER COLUMN

10.64 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)=
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

18

GAL/VOL

90

TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

18 GAL

36 GAL

54 GAL

72 GAL

90 GAL

TEMP, DEG C

11.0

11.2

11.2

11.1

11.0

pH, UNITS

7.0

7.0

7.0

7.1

7.1

SPECIFIC CONDUCTIVITY umhos/cm

2410

2400

2370

2420

2370

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS wt #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2	500 ML POLY		2212	0703101C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		2216	
CL	TT08	YES	4 DEG C	500 ML POLY		2217	
SO4	TT08	YES	4 DEG C			2219	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		2220	0212301C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		2223	0128101C
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		2225	0714001C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- see attached for volumes

SIGNATURE:

RECEIVED BY: UNANCY E

2nd elev = 826.0 riser elev. = 830.04

GW elev. = 742.91

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-91-01C
 LOCATION ACTIVITY START 0915 END 1100

FIELD SAMPLING NUMBER PBN9101C
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-15-91
 FILE NAME CGW
 WEATHER Sunny, 20°F windy

WATER LEVEL / WELL DATA

WELL DEPTH 154.50 FT MEASURED
 WATER DEPTH 27.13 FT HISTORICAL
 HEIGHT OF WATER COLUMN 67 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR 0 PPM
 WELL MOUTH 0 PPM
 TOP OF WELL TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.28 FT
 PROTECTIVE CASING/WELL DIFF. -0.18 FT
 WELL DIAMETER 2 INCH
 GROUNDWATER ELEVATION (BGS) 85.27
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A
 CONCRETE COLLAR INTACT YES NO N/A
 WELL LOCKED YES NO N/A
 OTHER:

PURGE DATA 0945

PURGE VOLUME	0945	0459	1013	1027	1041	1055
14 MIN	66 GAL	132 GAL	192 GAL	204 GAL	332 GAL	
TEMP, DEG C	8.8	8.4	8.2	8.7	9.0	
PH, UNITS	7.3	7.5	7.6	7.6	7.6	
SPECIFIC CONDUCTIVITY umhos/cm	575	584	572	586	572	

SAMPLE OBSERVATIONS

CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 EQUIPMENT ID
 ISCO #
 GRUNDFOSS #
 2" 4" #
 DECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3) 40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3) 40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: [Signature]
 RECEIVED BY: W. Nancy E. Rora

and elev = 819.0

river elev. = 821.20

GW elev. = 742.63

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 91-02B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-91-02B

JOB NUMBER

6853-04

SAMPLING DATE

12.7.91

LOCATION

ACTIVITY

START 1300

END 1430

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 40's

WATER LEVEL / WELL DATA

WELL DEPTH

123.7 FT

MEASURED

HISTORICAL

WATER DEPTH

73.37 FT

HEIGHT OF

WATER COLUMN

41.2 FT

.16 GAL/FT (2 IN)

.65 GAL/FT (4 IN)

1.5 GAL/FT (6 IN)

GAL/FT (1 IN)

4.2

GAL/VOL

210

TOTAL GAL PURGED

(210)

WELL DIAMETER

2 INCH

4 INCH

6 INCH

PROTECTIVE

CASING/WELL DIFF.

-0.21 FT

GROUNDWATER

ELEVATION

(BGS)

76.38

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: cap

PURGE DATA

PURGE VOLUME

0.12 GAL

0.34 GAL

0.126 GAL

0.165 GAL

0.210 GAL

TEMP, DEG C

10.1

9.8

10.0

10.0

10.0

PH, UNITS

5.5

8.05

8.12

5.14

5.14

SPECIFIC CONDUCTIVITY umhos/cm

251

774

779

777

775

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

EQUIPMENT ID

ISCO #

GRUNDFOS #

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS kit #

PP METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

CO

SS16

YES

HNO3 TO pH<2

1 L POLY

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

HG

SB03

YES

HNO3 TO pH<2

1 L POLY

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

HARD

USEPA 130.2

YES

HNO3 TO pH<2

1 L POLY

NI

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

500 ML POLY

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

NH342

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GUM

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)

- used volumes from development
* changed order in field. Sampled PBN-91-02B at 1600. No labels changed.

SIGNATURE:

Laura Cite RR

RECEIVED BY:

Nancy E. R

and
2012 = 819.9

riscer
elev. = 821.92

GW
elev. = 742.76

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN9102C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-91-02C

JOB NUMBER

6853-04

SAMPLING DATE 12-7-91

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY START 1445/1315 END 1600

WEATHER

Sunny, 40°s

WATER LEVEL / WELL DATA

WELL DEPTH 143.6 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2 32 FT

PROTECTIVE
CASING/WELL DIFF.

-0.20 FT

WATER DEPTH 77.16 FT

WELL
DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(GGS)

77.04

HEIGHT OF
WATER COLUMN 84.44 FT x

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

85 GAL/VOL

427 TOTAL GAL PURGED 427

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1.5 PPM

WELL MOUTH 1.6 PPM

PURGE DATA

PURGE VOLUME

13.52 13.47 14.01 14.23 14.50
@ 85 GAL @ 170 GAL @ 255 GAL @ 340 GAL @ 427 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

10.3 10.3 10.0 10.2 10.1
8.27 6.53 5.41 8.30 8.32
5.0 6.44 6.46 6.44 6.41

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2				
CA SS16	YES	HN03 TO pH<2				
NA SS16	YES	HN03 TO pH<2				
CD SS16	YES	HN03 TO pH<2				
CR SS16	YES	HN03 TO pH<2				
HG SB03	YES	HN03 TO pH<2				
PB SD24	YES	HN03 TO pH<2				
NI SS16	YES	HN03 TO pH<2				
BA SS16	YES	HN03 TO pH<2				
HARD USEPA 130.2	YES	HN03 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MC,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
-used volumes from development
*changed order in field - sampled PBN-91-02C
at 150. No labels changed

SIGNATURE: J. L. Lutz R2

RECEIVED BY: Nancy E. Rofa

ord. elev. = 812.7 riser elev. = 814.72 GW elev. = 742.02

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

SITE ID PBN-91-03B

JOB NUMBER

LOCATION ACTIVITY START 1345 END 1500

PROGRAM

SAMPLING DATE 12-14-91

FILE NAME CGW

WEATHER Sunny 16° W, 11 ch. 11

WATER LEVEL / WELL DATA

WELL DEPTH 108.30 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.1 FT

PROTECTIVE
CASING/WELL DIFF.

-0.19 FT

WATER DEPTH 72.70 FT

WELL
DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

70.79

HEIGHT OF
WATER COLUMN 35.60 FT

.16 GAL/FT (2 IN)
65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

41 GAL/VOL

205 TOTAL GAL PURGED

205

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
[X] [] []

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

8 MIN

1411 241 GAL

1427 262 GAL

1435 123 GAL

1443 164 GAL

1451 220 GAL

TEMP, DEG C

7.7

8.4

8.7

8.6

9.0

PH, UNITS

7.9

7.6

7.7

7.7

7.6

SPECIFIC CONDUCTIVITY umhos/cm

571

549

577

569

577

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOSS #
2" 4" #

POTABLE WATER
LIQUINOX
STEAM CLEANING

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS #

PP METALS (SPECIFIED BELOW)
TAL METALS (SPECIFIED BELOW)
CA SS16
NA SS16
CD SS16
CR SS16
HG SB03
PB SD24
NI SS16
BA SS16
HARD USEPA 130.2
NIT TF10
CL TT08
SO4 TT08
ALK USEPA 310.1
TDS USEPA 160.1
TOC USEPA 415.1
NH3N2 USEPA 350.2
VOC UM17
BN/A UM16
NG 99
NAM UN06
DNT UW26
TPH USEPA 418.1

YES

HNO3 TO pH<2

1 L POLY

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

HNO3 TO pH<2

[X]

[X]

[X]

[X]

YES

H2SO4 TO pH<2

500 ML POLY

[X]

[X]

[X]

YES

4 DEG C

500 ML POLY

[X]

[X]

[X]

YES

4 DEG C

500 ML POLY

[X]

[X]

[X]

NO

4 DEG C

500 ML POLY

[X]

[X]

[X]

NO

4 DEG C

500 ML POLY

[X]

[X]

[X]

NO

H2SO4 TO pH<2

(3)40 ML VIAL

[X]

[X]

[X]

NO

H2SO4 TO pH<2

500 ML POLY

[X]

[X]

[X]

NO

HCL, 4 DEG C

(3)40 ML VIAL

[X]

[X]

[X]

NO

4 DEG C

(2) 1 L AG

[X]

[X]

[X]

NO

4 DEG C

1 L AG

[X]

[X]

[X]

NO

4 DEG C

1 L AG

[X]

[X]

[X]

NO

4 DEG C

1 L AG

[X]

[X]

[X]

NO

H2SO4 TO pH<2

1 L GWM

[X]

[X]

[X]

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

3rd elev = 512.3 riser elev. = 314.37

GW elev. = 742.10

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN91103C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBN-911-03C

JOB NUMBER

6853-04

SAMPLING DATE

12.14.91

LOCATION ACTIVITY

START 1515 END 1645

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny 16° Windy

WATER LEVEL / WELL DATA

WELL DEPTH 154.2 FT

MEASURED HISTORICAL

TOP OF WELL TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.95 FT

PROTECTIVE CASING/WELL DIFF.

-0.14 FT

WATER DEPTH 72.27 FT

WELL DIAMETER

2 INCH 4 INCH 6 INCH

GROUNDWATER ELEVATION (BGS)

70.46

HEIGHT OF WATER COLUMN

81.9 FT

.16 GAL/FT (2 IN)
2.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

77.8 GAL/VOL

TOTAL GAL PURGED

389

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

PURGE DATA

PURGE VOLUME

16

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

	1526	1542	1558	1614	1631
PURGE VOLUME	276 GAL	256 GAL	234 GAL	312 GAL	340 GAL
TEMP, DEG C	8.7	8.5	8.8	8.7	8.3
PH, UNITS	7.8	7.8	7.5	7.8	7.3
SPECIFIC CONDUCTIVITY umhos/cm	482	482	481	482	482

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	S803	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C	500 ML POLY		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BW/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. Rora

GW
elev. =

riser
elev. = 831.53

GW
elev. = 743.16

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM90C11D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-90-C11D

JOB NUMBER

6853-04

LOCATION

ACTIVITY START 0900 END 1130

PROGRAM

C

SAMPLING DATE

12.15.91

FILE NAME

CGW

WEATHER

SUNNY 10-12
WINDY

WATER LEVEL / WELL DATA

WELL DEPTH 113.90 FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH 88.37 FT

HEIGHT OF

WATER COLUMN 25.53 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

91 GAL/VOL

TOTAL GAL PURGED

455

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

2.32 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PROTECTIVE
CASING/WELL DIFF.

+0.20 FT

GROUNDWATER
ELEVATION
(BGS)

86.25

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
OTHER: ☐

PURGE DATA

PURGE VOLUME

18 min

291 GAL

2152 GAL

2273 GAL

2364 GAL

2455 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

9.6

9.1

8.9

8.8

8.2

6.4

7.6

7.6

7.8

7.8

542

572

532

532

532

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# X
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
MG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,NG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- used historical volumes

SIGNATURE

RECEIVED BY

[Signature]
Nancy E. [Signature]

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBM-90-02D
 LOCATION ACTIVITY START 0900 END 1130

FIELD SAMPLING NUMBER

PBM9002D

SITE TYPE WELL

JOB NUMBER 6853-04

PROGRAM C

SAMPLING DATE 12-8-91

FILE NAME CGW

WEATHER foggy, 40°

WATER LEVEL / WELL DATA

WELL DEPTH 207 FT ☒ MEASURED ☐ HISTORICAL
 WATER DEPTH 78.72 FT
 HEIGHT OF WATER COLUMN 128 FT
 PROTECTIVE TOP OF WELL ☒ TOP OF CASING ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) 233 FT
 PROTECTIVE CASING/WELL DIFF. 105.21 FT
 WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH
 GROUNDWATER ELEVATION (BGS) 76.60
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 TOTAL GAL PURGED 540
 PURGE H2O CONTAINED? ☐ YES ☒ NO
 WELL MATERIAL ☒ PVC ☐ SS
 AMBIENT AIR 0.6 PPM
 WELL MOUTH 0.6 PPM
 WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
 CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
 WELL LOCKED ☒ YES ☐ NO ☐ N/A
 OTHER: _____

PURGE DATA

PURGE VOLUME	10.08 GAL	10.27 GAL	10.28 GAL	10.49 GAL	11.10 GAL
TEMP, DEG C	10.4	10.2	10.7	10.6	11.0
PH, UNITS	7.50	7.50	7.50	7.50	7.50
SPECIFIC CONDUCTIVITY umhos/cm	525	525	525	535	531

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒
 SUBMERSIBLE PUMP ☐
 BAILER ☐
 PVC/SILICON TUBING ☐
 IN-LINE/DISPOSABLE FILTER ☐
 OTHER _____
 EQUIPMENT ID
 ISCO # _____
 CRUNDOSS# _____
 2" 4" # _____
 RECON FLUIDS USED
 FOTABLE WATER ☐
 LIQUINOX ☐
 STEAM CLEANING ☐
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE ☐
 FLOAT ACTIVATED ☐
 PRESSURE TRANSDUCER ☐
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CO	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2			
NIT	YES	HNO3 TO pH<2			
CL	YES	HNO3 TO pH<2			
SO4	YES	HNO3 TO pH<2			
ALK	NO	H2SO4 TO pH<2	500 ML POLY		
TDS	NO	4 DEG C	500 ML POLY		
TOC	NO	4 DEG C	500 ML POLY		
NH3N2	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
VOC	NO	H2SO4 TO pH<2 500 ML POLY			
BN/A	NO	HCL, 4 DEG C (3)40 ML VIAL			
NG	NO	4 DEG C (2) 1 L AG			
NAM	NO	4 DEG C 1 L AG			
DNT	NO	4 DEG C 1 L AG			
TPH	NO	H2SO4 TO pH<2 1 L GLM			

ESS lot #

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes + well DEPTH
 -sides of well too sticky to get well depth

SIGNATURE: William C. Carter 2 R
 RECEIVED BY: Nancy E. Roper

grl
elev. =

riser
elev. = 814.79

GW
elev. = 741.97

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM9003D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PBM-90-03D

JOB NUMBER

6853-04

SAMPLING DATE

12.14.91

LOCATION
ACTIVITY

START 1330

END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny 10°

WATER LEVEL / WELL DATA

WELL DEPTH 201.8 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.60 FT

PROTECTIVE
CASING/WELL DIFF.

+0.21 FT

WATER DEPTH 72.82 FT

WELL
DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

71.43

HEIGHT OF
WATER COLUMN

129.0 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

103 GAL/VOL

TOTAL GAL PURGED

515

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA Sme + 140"

PURGE VOLUME

21 MIN

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

	1421	1422	1503	1524	1545
PURGE VOLUME	2103 GAL	2206 GAL	2309 GAL	2412 GAL	2515 GAL
TEMP, DEG C	8.2	8.8	8.7	8.7	8.7
pH, UNITS	7.9	7.8	7.8	7.8	7.8
SPECIFIC CONDUCTIVITY umhos/cm	415	488	733	708	714

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# X
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS L# #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
MN3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A	UM16	NO	4 DEG C (2) 1 L AG				
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy F

2711
3220. =

rise
elev = 830.00

GLW
elev = 738.70

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 70046

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-70-043

JOB NUMBER

6853-04

SAMPLING DATE 12-15-91

LOCATION ACTIVITY START 0915 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER Sunny, 20°F
windy

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.98 FT

PROTECTIVE
CASING/WELL DIFF. -0.04 FT

WELL DEPTH 122.32 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 71.30 FT

HEIGHT OF
WATER COLUMN 31.02 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

38 GAL/VOL

190 TOTAL GAL PURGED

WELL
DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION (BGS) 89.36

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR - PPM

WELL MOUTH - PPM

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐

PURGE DATA

PURGE VOLUME	038 GAL	076 GAL	0114 GAL	0152 GAL	0190 GAL
TEMP, DEG C	9.3	9.0	8.4	8.9	8.9
PH, UNITS	7.7	7.8	7.3	7.8	7.7
SPECIFIC CONDUCTIVITY umhos/cm	323	311	313	309	316

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: *RICKS 16/10*

RECEIVED BY: *Nancy E. Rofa*

and
elev. =

rise = 829.95
elev. =

GW
elev. = 730.66

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM7004D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-700-04D

JOB NUMBER

6853-04

SAMPLING DATE

12.15.91

LOCATION
ACTIVITY

START 0900 END 1130

PROGRAM

C

FILE NAME

CGW

WEATHER

SUNNY, WINDY
11" - 20.10C

WATER LEVEL / WELL DATA

WELL DEPTH 222.56 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.70 FT

PROTECTIVE
CASING/WELL DIFF.

4.23 FT

WATER DEPTH 11.32 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

89.85

HEIGHT OF
WATER COLUMN 131.24 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (1 IN)

98 GAL/VOL

440 TOTAL GAL PURGED

(490)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

PURGE DATA

PURGE VOLUME

278 GAL

296 GAL

294 GAL

392 GAL

290 GAL

TEMP, DEG C

9.2

9.7

9.8

8.9

9.0

PH, UNITS

7.7

7.8

7.6

7.7

7.7

SPECIFIC CONDUCTIVITY umhos/cm

314

313

314

301

302

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAITER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

RECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

PP METALS (SPECIFIED BELOW)
TAL METALS (SPECIFIED BELOW)
CA SS16
NA SS16
CD SS16
CR SS16
HG SS803
PB SD24
NI SS16
BA SS16
HARD USEPA 130.2
NIT TF10
CL TT08
SO4 TT08
ALK USEPA 310.1
TDS USEPA 160.1
TOC USEPA 415.1
NH3N2 USEPA 350.2
VOC UM17
BN/A UM16
NG 99
NAM UN06
DNT UN26
TPH USEPA 418.1

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #1

ANALYTICAL PARAMETERS	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	SS803	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MC,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03... (TL:GFAA, K/NA:ICP)

- used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

SWN = 830.8

riser elev. = 833.25

GW elev. = 755.65

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9101B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-01B

JOB NUMBER

6853-04

SAMPLING DATE 12.14.91

LOCATION

ACTIVITY START 0800 END 1130

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, windy
20° (21° - 10°)

WATER LEVEL / WELL DATA

WELL DEPTH 115.06 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.32 ± FT

PROTECTIVE CASING/WELL DIFF.

-0.21 FT

WATER DEPTH 77.60 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

75.49

HEIGHT OF WATER COLUMN

37.46 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

142 GAL/VOL

710 TOTAL GAL PURGED

712

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CN

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .4 PPM

WELL MOUTH .4 PPM

PURGE DATA

PURGE VOLUME

0142 GAL

0254 GAL

0426 GAL

0588 GAL

0710 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.4
7.5
722

9.3
7.6
424

8.0
7.6
405

7.9
7.6
414

7.0
7.5
422

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI1 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	NCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: R. K. S. / 1/8

RECEIVED BY: Nancy E. Kora

ATTN: elev. = 831.0

Riser elev. = 834.03

GW elev. = 754.66

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID SWN-91-01C
 LOCATION ACTIVITY START 0815 END 0930

FIELD SAMPLING NUMBER SWN9101C
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-14-91
 FILE NAME CGW
 WEATHER cloudy, windy 20°

WATER LEVEL / WELL DATA

WELL DEPTH 160.04 FT MEASURED HISTORICAL
 WATER DEPTH 79.37 FT
 HEIGHT OF WATER COLUMN 80.67 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOP OF WELL TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.73 FT
 PROTECTIVE CASING/WELL DIFF. -1.10 FT
 WELL DIAMETER 2 INCH 4 INCH 6 INCH
 GROUNDWATER ELEVATION (BGS) 76.74
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR .2 PPM WELL MOUTH .2 PPM
 TOTAL GAL PURGED 265
 WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: cap

PURGE DATA

PURGE VOLUME	@ 53 GAL	@ 106 GAL	@ 159 GAL	@ 212 GAL	@ 265 GAL
TEMP, DEG C	11.1	9.4	9.4	9.3	9.1
PH, UNITS	7.7	7.6	7.6	7.6	7.6
SPECIFIC CONDUCTIVITY umhos/cm	387	393	392	399	389

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 EQUIPMENT ID
 ISCO #
 GROUND #
 2" 4" #
 DECON FLUIDS USED
☒ FOIABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTL ID NUMBERS	ESS #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAH UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: R. C. Smith
 RECEIVED BY: W. Nancy E. R.

831.5 833.57 754.57

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID SWN-91-01D
LOCATION ACTIVITY START 0945 END 1215

FIELD SAMPLING NUMBER SWN9101D
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12.14.91
FILE NAME CGW
WEATHER PARTLY CLOUDY WINDY 15° -15W

WATER LEVEL / WELL DATA

WELL DEPTH 200.37 FT MEASURED
WATER DEPTH 79.00 FT HISTORICAL
HEIGHT OF WATER COLUMN 121.37 FT
WELL DIAMETER 2 INCH
GROUNDWATER ELEVATION (BGS) 77.04
PROTECTIVE CASING/WELL DIFF. -1.18 FT
TOTAL GAL PURGED 550
WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

PURGE DATA

PURGE VOLUME	2110 GAL	2220 GAL	2330 GAL	2440 GAL	2550 GAL
TEMP, DEG C	7.7	8.2	8.8	8.4	8.8
pH, UNITS	7.7	7.7	7.4	7.7	7.5
SPECIFIC CONDUCTIVITY umhos/cm	381	375	383	384	394

SAMPLE OBSERVATIONS: CLEAR, CLOUDY, COLORED, TURBID, ODOR, OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER
EQUIPMENT ID
ISCO #
BRUNNEN #
2" 4" #
RECON FLUIDS USED
FOTABLE WATER
LIQUINOX
STEAM CLEANING
WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C	500 ML POLY			
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C	500 ML POLY			
TOC	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A	NO	4 DEG C (2) 1 L AG				
NO	NO	4 DEG C 1 L AG				
NAM	NO	4 DEG C 1 L AG				
DNT	NO	4 DEG C 1 L AG				
TPH	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- used volumes from development

SIGNATURE: [Signature] / PCS
RECEIVED BY: Nancy E. Rota

gwt = 834.4 elev. = 836.59

GW elev. = 753.73

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN 91102C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID SWN-911-02C

JOB NUMBER 6853-04

SAMPLING DATE 12-14-91

LOCATION ACTIVITY START 1230 1245 END 1415

PROGRAM C

FILE NAME CGW

WEATHER 20° W - 15

WATER LEVEL / WELL DATA

WELL DEPTH 155.42 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.21 FT

PROTECTIVE
CASING/WELL DIFF.

-0.23 FT

WATER DEPTH 82.67 FT

WELL
DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

80.69

HEIGHT OF
WATER COLUMN

71.75 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

66 GAL/VOL

330

TOTAL GAL PURGED

330

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CR

YES NO N/A
[] [] []
[] [] []
[] [] []

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

66 GAL

132 GAL

198 GAL

264 GAL

330 GAL

TEMP, DEG C

8.7

8.8

8.8

8.8

8.5

PH, UNITS

7.3

7.5

7.6

7.5

7.4

SPECIFIC CONDUCTIVITY umhos/cm

432

430

434

424

424

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC CONDO. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
FE SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C	500 ML POLY		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	NCL, 4 DEG C	(3) 40 ML VIAL		
3N/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: [Signature]

RECEIVED BY: Nancy E

grd elev. = 834.7 riser elev. = 836.63

GW elev. = 752.26

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9103B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 12.10.91

SITE ID SWN-91-03B

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1430 12 END 1545 14 30

PROGRAM C

WEATHER CLEAR 40

WATER LEVEL / WELL DATA

WELL DEPTH 115 10 FT

MEASURED HISTORICAL

TOP OF WELL TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.9 FT

PROTECTIVE CASING/WELL DIFF. - 0.03 FT

WATER DEPTH 84 57 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

45 GAL/VOL

WELL DIAMETER 2 INCH 4 INCH 6 INCH

GROUNDWATER ELEVATION (BGS) 8d.55

HEIGHT OF WATER COLUMN 30.75 FT

TOTAL GAL PURGED 220

WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER:

PURGE H2O CONTAINED? YES NO

WELL MATERIAL PVC SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.4 PPM

PURGE DATA

PURGE VOLUME

13 10 13 25 13 40 13 55 14 10

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

PURGE VOLUME	13 10	13 25	13 40	13 55	14 10
TEMP, DEG C	10.5	10.5	10.7	10.7	10.7
pH, UNITS	8.15	8.04	8.16	8.17	8.6
SPECIFIC CONDUCTIVITY umhos/cm	711	710	715	713	714

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CO	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
MG	S803	YES	HNO3 TO pH<2			
FB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,NG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development
-order changed in field - labels not changed

SIGNATURE: J. Cate LR
RECEIVED BY: Nancy E. K

and
Sta = 3666 user = 336.75 7W
22W = 752.32

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9103C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID SWN-91-03C

JOB NUMBER 6853-04

SAMPLING DATE 12.10.91

LOCATION ACTIVITY START 120014.30 END 1630

PROGRAM C

FILE NAME CGW

WEATHER CLE AIR 40

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.28 FT

PROTECTIVE CASING/WELL DIFF.

-0.01 FT

WELL DEPTH 16.5 28 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 84.41 FT

WELL DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS)

82.14

HEIGHT OF WATER COLUMN 90.87 FT X .16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (1 IN)

77 GAL/VOL

388 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.3 PPM

PURGE DATA

PURGE VOLUME

77 GAL

151 GAL

231 GAL

311 GAL

388 GAL

TEMP, DEG C

10.6

10.8

10.6

11.0

12.0

PH, UNITS

8.54

8.26

8.27

8.2

8.2

SPECIFIC CONDUCTIVITY umhos/cm

454

448

457

449

445

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #1

PP METALS (SPECIFIED BELOW)
TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

/

/

/

/

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

/

/

/

/

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

☒

/

/

/

/

CD

SS16

YES

HNO3 TO pH<2

1 L AG

☒

1982

/

/

0222801C

CR

SS16

YES

HNO3 TO pH<2

1 L AG

☒

/

/

/

/

HG

S803

YES

HNO3 TO pH<2

1 L AG

☒

/

/

/

/

PB

S024

YES

HNO3 TO pH<2

1 L AG

☒

/

/

/

/

NI

SS16

YES

HNO3 TO pH<2

1 L AG

☒

/

/

/

/

BA

SS16

YES

HNO3 TO pH<2

1 L AG

☒

/

/

/

/

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

☒

1982

/

/

0222801C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

1983

/

/

0223101C

CL

TT08

YES

4 DEG C

500 ML POLY

☒

1984

/

/

/

SO4

TT08

YES

4 DEG C

500 ML POLY

☒

1985

/

/

/

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☒

/

/

/

/

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

☒

/

/

/

/

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☒

/

/

/

/

NH342

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☒

/

/

/

/

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☒

1986

1987

1988

0212301C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☒

1989

1990

/

0223101C

NG

99

NO

4 DEG C

1 L AG

☒

/

/

/

/

NAM

UN06

NO

4 DEG C

1 L AG

☒

/

/

/

/

DNT

UN26

NO

4 DEG C

1 L AG

☒

/

/

/

/

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

☒

/

/

/

/

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,S024,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,S024,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development
-order changed in field - labels not changed

SIGNATURE: Nancy E. Roror
RECEIVED BY: Nancy E. Roror

755-0350

837 09

755 04

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID SWN-911-03D
 LOCATION ACTIVITY START 1015 END 1330

FIELD SAMPLING NUMBER SWN91103D
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-10-91
 FILE NAME CGW
 WEATHER CLEAR 30°

WATER LEVEL / WELL DATA

WELL DEPTH 210.5 FT MEASURED HISTORICAL
 WATER DEPTH 54.93 FT
 HEIGHT OF WATER COLUMN 125.97 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 115 GAL/VOL
 TOTAL GAL PURGED 564
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR 0.4 PPM
 WELL MOUTH 0.4 PPM
 PROTECTIVE CASING STICK-UP (FROM GROUND) 218 FT
 PROTECTIVE CASING/WELL DIFF. 70.01 FT
 WELL DIAMETER 2 INCH 4 INCH 6 INCH
 GROUNDWATER ELEVATION (BGS) 82.26
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A
 CONCRETE COLLAR INTACT YES NO N/A
 WELL LOCKED YES NO N/A
 OTHER:

PURGE DATA

	1 44	12 13	12 41	13 10	13 37
PURGE VOLUME	2115 GAL	223 GAL	245 GAL	246 GAL	249 GAL
TEMP, DEG C	10.5	10.1	9.7	10.5	10.5
PH, UNITS	8.55	8.37	8.26	8.32	8.30
SPECIFIC CONDUCTIVITY umhos/cm	366	363	393	370	365

SAMPLE OBSERVATIONS
 CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOOR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING PERISTALTIC PUMP ISCO #
 SUBMERSIBLE PUMP CRUNFOS#
 BAITER 2" 4" #
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 RECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SD4 TT08	YES	4 DEG C	500 ML POLY		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN'A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
CNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 -used volumes from development

SIGNATURE: [Signature]
 RECEIVED BY: Nancy E. [Signature]

riser elev = 857.38

GW elev = 772.25

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9103E

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID SWN-91-03E

JOB NUMBER 6853-04

SAMPLING DATE 12.10.91

LOCATION ACTIVITY START 1030 END 120015

PROGRAM C

FILE NAME CGW

WEATHER CLEAR

WATER LEVEL / WELL DATA

WELL DEPTH 240.4 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.4 FT

PROTECTIVE
CASING/WELL DIFF.

-1.9 FT

WATER DEPTH 65.15 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

20 GAL/VOL

WELL DIAMETER
2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

62.94

HEIGHT OF
WATER COLUMN 135.25 FT

X

131

TOTAL GAL PURGED

131

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
[] [] []
[] [] []
[] [] []
[] [] []

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.3 PPM

PURGE DATA

PURGE VOLUME

11.24 11.35 11.42 11.51 12.00
20 GAL 52 GAL 78 GAL 104 GAL 131 GAL

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

10.3 10.6 10.6 10.4 10.5
8.71 8.83 8.83 8.81 8.86
450 450 443 449 627

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

REC'D FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			2000 / 0222201C
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG S803	YES	HNO3 TO pH<2			
PB S024	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2000 / 0222201C
CL TT08	YES	4 DEG C	500 ML POLY		2001 / 0703101C
SO4 TT08	YES	4 DEG C			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
AG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,S024,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,S024,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: Y. L. R. R.

RECEIVED BY: Nancy E. Rofa

3rd. elev. = 832.8

75er elev. = 834.37

GW elev. = 749.91

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SKUN91104C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SWN-91-04C

JOB NUMBER

6853-04

SAMPLING DATE

12-14-91

LOCATION

ACTIVITY START 1100 END 1230

PROGRAM

C

FILE NAME

CGW

WEATHER

Partly Sunny
16 windy

WATER LEVEL / WELL DATA

WELL DEPTH 167.8 FT

WATER DEPTH 84.46 FT

HEIGHT OF WATER COLUMN 82.84 FT

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

TOP OF WELL
TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.6 FT

PROTECTIVE CASING/WELL DIFF.

-0.21 FT

☒ MEASURED
☐ HISTORICAL

0.16 GAL/FT (2 IN)
0.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

73 GAL/VOL

365 TOTAL GAL PURGED

WELL DIAMETER
2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS)

82.57

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE DATA

PURGE VOLUME

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

	1141	1156	1211	1226	1241
PURGE VOLUME	2173 GAL	2146 GAL	2219 GAL	2252 GAL	2365 GAL
TEMP, DEG C	9.3	9.5	9.5	9.4	9.0
pH, UNITS	8.0	7.7	7.7	7.7	7.7
SPECIFIC CONDUCTIVITY umhos/cm	499	475	491	493	492

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 1/4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CO	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	S803	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C	500 ML POLY		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
HG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
ONT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

SLW = 833.5

SLW = 835.28

SLW = 750.90

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

SWN9104D

SITE ID SWN-91-04D

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

12-14-91

LOCATION

ACTIVITY

START 1045 END 1245

PROGRAM

C

FILE NAME

CGW

WEATHER

Partly Sunny
161 WINDY

WATER LEVEL / WELL DATA

WELL DEPTH 208 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.4 FT

PROTECTIVE
CASING/WELL DIFF.

0.10 FT

WATER DEPTH 84.35 FT

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

82.02

HEIGHT OF
WATER COLUMN 123.62 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

95.2 GAL/VOL

476 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
X
X
X

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

19 MIN

1149

295 GAL

1208

2190 GAL

1227

2285 GAL

1246

2390 GAL

1305

2476 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.4

7.4

395

9.6

7.8

400

9.5

7.8

398

9.6

7.8

395

8.7

7.8

460

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2			2018	022250.0
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			2018	022250.0
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2019	020310.0
CL TT08	YES	4 DEG C	500 ML POLY		2020	
SO4 TT08	YES	4 DEG C	500 ML POLY		2021	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		2022	021230.0
BN/A UM16	NO	4 DEG C	(2) 1 L AG		2023	022810.0
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLW			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE:

RECEIVED BY:

Nancy E. Rota

2nd. elev. = 830.5

1st. elev. = 332.67

3rd. elev. = 743.12

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT: USATHAMA-BAAP
 SITE ID: SWN-91-05B
 LOCATION ACTIVITY: START 0815 END 0900

FIELD SAMPLING NUMBER: SWN9105B
 SITE TYPE: WELL
 JOB NUMBER: 6853-04
 PROGRAM: C

SAMPLING DATE: 12.14.91
 FILE NAME: CGW
 WEATHER: overcast, cold 10° winds, gusting to 40 mph

WATER LEVEL / WELL DATA

WELL DEPTH: 115.13 FT
 WATER DEPTH: 84.55 FT
 HEIGHT OF WATER COLUMN: 30.58 FT
 MEASURED: ☒ HISTORICAL: ☐
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOP OF WELL: ☒ TOP OF CASING: ☐
 PROTECTIVE CASING STICK-UP (FROM GROUND): 2.52 FT
 PROTECTIVE CASING/WELL DIFF: 0.18 FT
 WELL DIAMETER: 2 INCH
 4 INCH
 6 INCH
 GROUNDWATER ELEVATION (BGS): 82.19
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 33.4 GAL/VOL
 167 TOTAL GAL PURGED
 PURGE H2O CONTAINED? YES ☐ NO ☒
 WELL MATERIAL: PVC ☒ SS ☐
 AMBIENT AIR: 0 PPM
 WELL MOUTH: 0 PPM
 WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
 CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
 WELL LOCKED ☒ YES ☐ NO ☐ N/A
 OTHER: ☐

PURGE DATA

PURGE VOLUME: 7 min, 0835
 0842 0849 0856 0903 0910
 233 GAL 266 GAL 249 GAL 2132 GAL 2167 GAL
 TEMP, DEG C: 4.5 9.0 3.7 4.3 5.6
 PH, UNITS: 7.1 7.5 7.5 7.5 7.6
 SPECIFIC CONDUCTIVITY umhos/cm: 582 572 330 534 584
 SAMPLE OBSERVATIONS: CLEAR ☒ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES) ☐

EQUIPMENT DOCUMENTATION

PURGING: ☒ SAMPLING: ☒
 PERISTALTIC PUMP: ☐ EQUIPMENT ID: ISCO #
 SUBMERSIBLE PUMP: ☐ GROUNDOS#
 BAILER: ☐ 2" 4" #
 PVC/SILICON TUBING: ☐
 IN-LINE/DISPOSABLE FILTER: ☐
 OTHER: ☐
 DECON FLUIDS USED: ☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED: ☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2	1 L FOLY			
TAL METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2				
CA SS16	YES	HN03 TO pH<2				
NA SS16	YES	HN03 TO pH<2				
CO SS16	YES	HN03 TO pH<2				
CR SS16	YES	HN03 TO pH<2				
HG S803	YES	HN03 TO pH<2				
PB SD24	YES	HN03 TO pH<2				
NI SS16	YES	HN03 TO pH<2				
BA SS16	YES	HN03 TO pH<2				
HARD USEPA 130.2	YES	HN03 TO pH<2				
NTF TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	NCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,HG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: [Signature]
 RECEIVED BY: Nancy E. [Signature]

2nd. = 830.8

1st. elev. = 832.86

GW elev. = 748.07

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9105C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SWN-91-05C

JOB NUMBER

6853-04

SAMPLING DATE

12.14.91

LOCATION

ACTIVITY START 0915 END 1215

PROGRAM

C

FILE NAME

CGW

WEATHER

60°C 10% 40mph winds

WATER LEVEL / WELL DATA

WELL DEPTH 148.75 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

263 FT

PROTECTIVE CASING/WELL DIFF.

-0.7 FT

WATER DEPTH 84.79 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

82.86

HEIGHT OF WATER COLUMN 64.06 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

41.6 GAL/VOL

208 TOTAL GAL PURGED

208

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME 9 MIN

042 GAL

044 GAL

0126 GAL

0168 GAL

0208 GAL

TEMP, DEG C

4.5

4.5

4.5

4.6

4.5

PH, UNITS

7.6

7.6

7.6

7.6

7.6

SPECIFIC CONDUCTIVITY umhos/cm

560

554

556

565

560

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# X
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		ESS 4 #1
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	S803	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NI1	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C	500 ML POLY		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC	UN17	NO	HCL, 4 DEG C (3)40 ML VIAL			
BN/A	UN16	NO	4 DEG C (2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used volumes from development

SIGNATURE: [Signature]
RECEIVED BY: Nancy E. Restra

3rd elev. = 828.2
7ser elev. = 830.3

GUL elev. = 761.86

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

51101

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

S-11101

JOB NUMBER

6853-04

SAMPLING DATE

12-11-91

LOCATION

ACTIVITY START 10:51 13:50 END

1400

PROGRAM

C

FILE NAME

CGW

WEATHER

clear, 30°

WATER LEVEL / WELL DATA

WELL DEPTH

69.35

WATER DEPTH

136.5

HEIGHT OF

WATER COLUMN

1.0

PURGE H2O CONTAINED?

YES

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.2 PPM

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

FT

PROTECTIVE
CASING/WELL DIFF.

-1.3

WELL
DIAMETER

2 INCH

GROUNDWATER
ELEVATION

4 INCH

6 INCH

GAL/VOL

TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER:

YES

NO

N/A

PURGE DATA

PURGE VOLUME

@ 1 GAL

@ GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

2.1

PH, UNITS

7.3

SPECIFIC CONDUCTIVITY umhos/cm

916

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLORLESS

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

REQUIRED

SAMPLE BOTTLE ID NUMBERS

ESS wt #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA

NA

CD

HG

PB

NI

BA

HARD

NIT

CL

SO4

ALK

TDS

TOC

NH3N2

VOC

BN/A

NG

NAM

DNT

TPH

SS16

SS16

SS16

SS16

SS16

SS16

SS16

SS16

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HNO3 TO pH<2

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NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

- attempted bailing on 12-9-91 - too silty - could not get any H2O out (>10 tries)

- attempted bailing on 12-10-91 - could only retrieve 1/3 of a bailer out of 8 bails. Thick silty sand

prevented any H2O from being held. Cannot sample

1st attempted to collect just VOCs - 2nd attempts were successful

12-11-91 collected 1/2 bailer - H2O (clear)

12-11-91 collected 1/2 bailer - DNT

SIGNATURE: N. Roka

RECEIVED BY: Nancy E. Roka

Well elev = 807.6 riser elev = 809.13 GW elev = 761.30

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

5-1103

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

5-1103

JOB NUMBER

6853-04

SAMPLING DATE

11-20-91

LOCATION

ACTIVITY

START 1400

END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 50's-60's

WATER LEVEL / WELL DATA

WELL DEPTH

121.4 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL

PROTECTIVE

CASING STICK-UP
(FROM GROUND)

1.61 FT

PROTECTIVE

CASING/WELL DIFF.

-0.08 FT

WATER DEPTH

47.33 FT

WELL DIAMETER

2 INCH

GROUNDWATER

ELEVATION

45.80

HEIGHT OF

WATER COLUMN

79.07 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

60 GAL/VOL

300

TOTAL GAL PURGED

300

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: cap

YES NO N/A

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

PURGE H2O CONTAINED?

YES NO

☒ YES ☐ NO

WELL MATERIAL

PVC SS

☒ PVC ☐ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 0.6 PPM

PURGE DATA

PURGE VOLUME

260 GAL

2120 GAL

2180 GAL

2240 GAL

2300 GAL

TEMP, DEG C

10.4

10.2

10.0

10.0

9.8

PH, UNITS

7.1

7.1

7.3

7.2

7.2

SPECIFIC CONDUCTIVITY umhos/cm

70

676

673

673

672

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

BRUNNEN#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☒

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☒

1384 / 022801C

☒

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

CA

SS16

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

NA

SS16

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

CD

SS16

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

CR

SS16

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

HG

SB03

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

PB

SD24

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

NI

SS16

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒

BA

SS16

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒ HARD

USEPA 130.2

YES

HNO3 TO pH<2

☒

1384 / 022801C

☒ NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

1384 / 0428101C

☒ CL

TT08

YES

4 DEG C

500 ML POLY

☒

1384 / 0428101C

☒ SO4

TT08

YES

4 DEG C

☒

1384 / 0428101C

☒ ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☒

1384 / 0428101C

☒ TDS

USEPA 160.1

NO

4 DEG C

☒

1384 / 0428101C

☒ TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☒

1384 / 0428101C

☒ NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☒

1384 / 0428101C

☒ VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☒

1384 / 0428101C

☒ BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☒

1384 / 0428101C

☒ NG

99

NO

4 DEG C

1 L AG

☒

1384 / 0428101C

☒ NAM

UN06

NO

4 DEG C

1 L AG

☒

1384 / 0428101C

☒ DNT

UN26

NO

4 DEG C

1 L AG

☒

1384 / 0428101C

☒ TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

☒

1384 / 0428101C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O containerized for VOCs
-used historical volumes

SIGNATURE:

RECEIVED BY:

Nancy E. Rora

aml elev = 837.5 riser elev. = 837.21

GW elev = 762.39

ABB ENVIRONMENTAL SERVICES, INC.

PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

S-11104

JOB NUMBER

6853-04

SAMPLING DATE

12-13-91

LOCATION

ACTIVITY

START 1315

END 1430

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 30°S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.43 FT

PROTECTIVE CASING/WELL DIFF.

-0.56 FT

WELL DEPTH

98.0 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

76.82 FT

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION

75.45

HEIGHT OF

WATER COLUMN

21.18 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

43

GAL/VOL

TOTAL GAL PURGED

(215)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

1308.5

1317

1325.5

1334

1342.5

TEMP, DEG C

pH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

243 GAL

280 GAL

239 GAL

212 GAL

215 GAL

8.0

8.7

8.4

8.6

9.5

7.7

7.5

7.3

7.3

7.4

499

495

493

499

500

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

SAMPLING

EQUIPMENT ID

ISCO #

GRUNDFOS # 2
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☒ PP METALS (SPECIFIED BELOW)

☒ TAL METALS (SPECIFIED BELOW)

CA SS16 YES HNO3 TO pH<2 1 L POLY 1396 / / / 022801C

NA SS16 YES HNO3 TO pH<2 1 L POLY 1397 / / / 070310C

CD SS16 YES HNO3 TO pH<2 1 L POLY 1398 / / /

CR SS16 YES HNO3 TO pH<2 1 L POLY 1399 / / /

HG SB03 YES HNO3 TO pH<2 1 L POLY 1400 / / /

PB SD24 YES HNO3 TO pH<2 1 L AG 1401 / / / 021230C

NI SS16 YES HNO3 TO pH<2 1 L AG 1402 / / / 022801C

BA SS16 YES HNO3 TO pH<2 1 L AG 1403 / / / 070310C

HARD USEPA 130.2 YES HNO3 TO pH<2 500 ML POLY 1404 / / /

NIT TF10 YES H2SO4 TO pH<2 500 ML POLY 1405 / / /

CL TT08 YES 4 DEG C 500 ML POLY 1406 / / /

SO4 TT08 YES 4 DEG C 500 ML POLY 1407 / / /

ALK USEPA 310.1 NO 4 DEG C 1 L AG 1408 / / /

TDS USEPA 160.1 NO 4 DEG C 1 L AG 1409 / / /

TOC USEPA 415.1 NO H2SO4 TO pH<2 (3) 40 ML VIAL 1410 / / /

NH3N2 USEPA 350.2 NO H2SO4 TO pH<2 500 ML POLY 1411 / / /

VOC UM17 NO HCL, 4 DEG C (3) 40 ML VIAL 1412 / / /

BN/A UM16 NO 4 DEG C (2) 1 L AG 1413 / / /

NG 99 NO 4 DEG C 1 L AG 1414 / / /

NAM UN06 NO 4 DEG C 1 L AG 1415 / / /

DNT UW26 NO 4 DEG C 1 L AG 1416 / / /

TPH USEPA 418.1 NO H2SO4 TO pH<2 1 L GWM 1417 / / /

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(Al,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historic volumes

SIGNATURE:

RECEIVED BY:

Nancy E.

017
71.1 = 637.4

71.5 = 857.03
elev. =

71.1 = 767.37
elev. =

ABB ENVIRONMENTAL SERVICES, INC.

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID S-11105
LOCATION ACTIVITY START 1505 END 1630

FIELD SAMPLING NUMBER S-11105
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12-13-91
FILE NAME CGW
WEATHER Sunny, 30°S

WATER LEVEL / WELL DATA

WELL DEPTH 14.50 FT ☒ MEASURED ☐ HISTORICAL
WATER DEPTH 76.69 FT
HEIGHT OF WATER COLUMN 37 FT X 32 GAL/VOL
TOTAL GAL PURGED (160)
WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 75.67
PROTECTIVE CASING/WELL DIFF. -1.32 FT
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: _____
PURGE H2O CONTAINED? ☐ YES ☒ NO
WELL MATERIAL ☐ PVC ☐ SS
AMBIENT AIR 0 PPM
WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME 232 GAL 64 GAL 96 GAL 128 GAL 160 GAL
TEMP, DEG C 9.2 7.0 9.0 9.4 9.2
PH, UNITS 7.7 7.3 7.3 7.3 7.3
SPECIFIC CONDUCTIVITY umhos/cm 513 516 516 518 516
SAMPLE OBSERVATIONS: ☒ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ OOR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐
EQUIPMENT ID ISCO #
PERISTALTIC PUMP ☐ SUBMERSIBLE PUMP ☐ BAILER ☐ 2" ☐ 4" #
PVC/SILICON TUBING ☐ IN-LINE/DISPOSABLE FILTER ☐ OTHER _____
DECON FLUIDS USED: ☐ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
WATER LEVEL EQUIP. USED: ☐ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1408	022801C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1408	022801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1409	020310C
CL TT08	YES	4 DEG C	500 ML POLY		1410	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1411	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			1412	021230C
BN/A UM16	NO	4 DEG C (2) 1 L AG			1415	022801C
NG 99	NO	4 DEG C 1 L AG			1417	
NAM UN06	NO	4 DEG C 1 L AG			1418	
DNT UW26	NO	4 DEG C 1 L AG			1419	
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historic volumes

SIGNATURE: Nancy E. Kora
RECEIVED BY: Nancy E. Kora

grd. elev = 837.7

riser elev = 839.76

3rd = 762.34

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID S-11106
 LOCATION ACTIVITY START 1300 END 1500

FIELD SAMPLING NUMBER S11106
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-13-91
 FILE NAME CGW
 WEATHER Sunny, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 141.5 FT ☐ MEASURED ☐ TOP OF WELL ☐ TOP OF CASING ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) 1.76 FT ☐ PROTECTIVE CASING/WELL DIFF. -0.18 FT
 WATER DEPTH 77.38 FT ☐ HISTORICAL
 WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH GROUNDWATER ELEVATION (BGS) 75.82
 HEIGHT OF WATER COLUMN 64.12 FT X ☐ .16 GAL/FT (2 IN) ☐ .65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) ☐ GAL/FT (IN)
 PURGE VOLUME 255 GAL/VOL 255 TOTAL GAL PURGED
 PURGE H2O CONTAINED? ☐ YES ☒ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR 0 PPM WELL MOUTH 0 PPM
 WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
 CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
 WELL LOCKED ☒ YES ☐ NO ☐ N/A
 OTHER: _____

PURGE DATA

	1320	1330	1340	1350	1400
PURGE VOLUME	10.5	2.51 GAL	2.102 GAL	2.153 GAL	2.204 GAL
TEMP, DEG C	4.2	8.8	9.1	9.0	8.7
PH, UNITS	7.6	7.6	7.6	7.6	7.6
SPECIFIC CONDUCTIVITY umhos/cm	454	452	456	455	447

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ PERISTALTIC PUMP EQUIPMENT ID ISCO #
 SAMPLING ☒ SUBMERSIBLE PUMP GRUNDFOS #
☒ BAILER 2" 4" #
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER _____
 DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2			
CA SS16	YES	HN03 TO pH<2			
NA SS16	YES	HN03 TO pH<2			
CO SS16	YES	HN03 TO pH<2			
CR SS16	YES	HN03 TO pH<2			
HG SB03	YES	HN03 TO pH<2			
PB SD24	YES	HN03 TO pH<2			
NI SS16	YES	HN03 TO pH<2			
BA SS16	YES	HN03 TO pH<2			
HARD USEPA 130.2	YES	HN03 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C	500 ML POLY		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used historic volumes

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

Grd. elev. = 810.1 riser elev. = 812.08 GW elev. = 762.66

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

8-1107

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

8-1107

JOB NUMBER

6853-04

SAMPLING DATE

12-13-91

LOCATION ACTIVITY

START 1330

END 1500

PROGRAM

C

FILE NAME

CGW

WEATHER

Clear 30°

WATER LEVEL / WELL DATA

WELL DEPTH

74.43 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.62 FT

PROTECTIVE CASING/WELL DIFF.

FLUSH FT

WATER DEPTH

44.42 FT

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

47.80

HEIGHT OF WATER COLUMN

25.51 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)

47 GAL/VOL

235

TOTAL GAL PURGED

235

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .5 PPM

WELL MOUTH .5 PPM

PURGE DATA

PURGE VOLUME

2 47 GAL

2 94 GAL

2 141 GAL

2 188 GAL

2 235 GAL

TEMP, DEG C

9.9

9.9

10.1

10.0

10.0

PH, UNITS

7.4

7.3

7.4

7.4

7.3

SPECIFIC CONDUCTIVITY umhos/cm

391

389

392

389

389

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

☒

☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS#
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☒ PP METALS (SPECIFIED BELOW)
☒ TAL METALS (SPECIFIED BELOW)
☒ CA
☒ NA
☒ CD
☒ CR
☒ HG
☒ PB
☒ NI
☒ BA
☒ HARD
☒ NIT
☒ CL
☒ SO4
☒ ALK
☒ TDS
☒ TOC
☒ NH3N2
☒ VOC
☒ BN/A
☒ NG
☒ NAM
☒ DNT
☒ TPH

SS16

YES

HNO3 TO pH<2

1 L POLY

1432

1433

1434

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1435

1436

1437

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1438

1439

1440

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1441

1442

1443

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1444

1445

1446

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1447

1448

1449

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1450

1451

1452

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1453

1454

1455

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1456

1457

1458

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1459

1460

1461

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1462

1463

1464

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1465

1466

1467

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1468

1469

1470

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1471

1472

1473

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1474

1475

1476

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1477

1478

1479

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1480

1481

1482

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1483

1484

1485

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1486

1487

1488

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1489

1490

1491

0222001C

SS16

YES

HNO3 TO pH<2

500 ML POLY

1492

1493

1494

0222001C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(Al,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: R. L. S. H. / 1/1/92

RECEIVED BY: Nancy E. RORO

gru elev. = 781.4 riser elev. = 782.74

gru elev. = 762.71

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER 5-11103

SITE ID 5-11103

SITE TYPE WELL

SAMPLING DATE 12/13/91

LOCATION ACTIVITY START 1510 END 1630

JOB NUMBER 6853-04

FILE NAME CGW

PROGRAM C

WEATHER CLEAR 25°

WATER LEVEL / WELL DATA

WELL DEPTH 40.80 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.11 FT

PROTECTIVE CASING/WELL DIFF. -1.03 FT

WATER DEPTH 26.03 FT

WELL DIAMETER 2 INCH

GROUNDWATER ELEVATION (BGS) 18.95

HEIGHT OF WATER COLUMN 20.77 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

46 GAL/VOL

230

TOTAL GAL PURGED

(230)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: CA

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR .6 PPM

WELL MOUTH .6 PPM

PURGE DATA

PURGE VOLUME

@ 46 GAL

@ 92 GAL

@ 138 GAL

@ 184 GAL

@ 230 GAL

TEMP, DEG C

9.4

9.4

9.5

9.3

9.4

PH, UNITS

7.2

7.1

7.2

7.1

7.1

SPECIFIC CONDUCTIVITY umhos/cm

344

314

312

314

314

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

SUBMERSIBLE PUMP

GRUNDEDS#

BAILER

2" 4" #

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1444	022250.C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1444	022250.C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1445	020310.C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1446	
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>	1447	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1447	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>	1447	
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>	1448	021230.C
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1449	021230.C
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	1451	022810.C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1452	
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1453	
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1454	
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1455	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM	<input checked="" type="checkbox"/>	1455	

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: Paul S. H. Lee

RECEIVED BY: Nancy E. Lee

773
ELEV = 854.7773
ELEV = 856.33773
ELEV = 756.79

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

S11109

PROJECT

USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

S-11109

JOB NUMBER

6853-04

SAMPLING DATE

12.16.91

LOCATION

ACTIVITY

START 1405 END 1500

PROGRAM

C

FILE NAME

CGW

WEATHER

FOGGY
BRAZING 40°

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

1.71 FT

PROTECTIVE

- .23 FT

WELL DEPTH

109.21 FT

☒ MEASURED☐

TOP OF CASING

CASING STICK-UP

WATER DEPTH

89.79 FT

☒ HISTORICAL☐

(FROM GROUND)

WELL DIAMETER

☐ 2 INCH

GROUNDWATER

ELEVATION

38.31

HEIGHT OF

19.42 FT

☐ .16 GAL/FT (2 IN)

36 GAL/VOL

☐ 4 INCH

ELEVATION

(BGS)

WATER COLUMN

19.42 FT

☐ .65 GAL/FT (4 IN)

180 TOTAL GAL PURGED

☐ 6 INCH

ELEVATION

(BGS)

PURGE H2O CONTAINED?

☐ YES☒ NO

WELL MATERIAL

☒ PVC☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CAP

YES

NO

N/A

☒☐☐

PURGE DATA

PURGE VOLUME

236 GAL

272 GAL

210.8 GAL

2144 GAL

2180 GAL

TEMP, DEG C

16.9

10.8

10.8

10.7

10.6

PH, UNITS

7.5

7.3

7.2

7.2

7.3

SPECIFIC CONDUCTIVITY umhos/cm

487

483

487

478

474

SAMPLE OBSERVATIONS

☒ CLEAR☐ CLOUDY☐ COLORED☐ TURBID☐ OOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER☐ LIQUINOX☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE☐ FLOAT ACTIVATED☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS LIT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> HG	S803	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2072/	0223501C
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	2073/	0223501C
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	2074/	0223501C
<input checked="" type="checkbox"/> SC4	TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	2075/	0223501C
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	2076/	0223501C
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>	2077/	0223501C
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>	2078/	0223501C
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>	2079/	0223501C
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	2080/	0223501C
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	2081/	0223501C
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	2082/	0223501C
<input checked="" type="checkbox"/> NAM	UM06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	2083/	0223501C
<input checked="" type="checkbox"/> DNT	UM26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	2084/	0223501C
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>	2085/	0223501C

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: RICS/LL/ABX

RECEIVED BY: UNANCY E. RORA

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHANA-BAAP
 SITE ID S-11110
 LOCATION ACTIVITY START 0830 END 1000

FIELD SAMPLING NUMBER S11110
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-12-91
 FILE NAME CGW
 WEATHER RAIN 45°

WATER LEVEL / WELL DATA

WELL DEPTH 65.52 FT ☒ MEASURED ☐ HISTORICAL
 WATER DEPTH 47.07 FT
 HEIGHT OF WATER COLUMN 18.45 FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOP OF WELL ☒ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.17 FT
 PROTECTIVE CASING/WELL DIFF. FLUSH FT
 WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH
 GROUNDWATER ELEVATION (BGS) 44.90
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☒ ☐ ☐
 CONCRETE COLLAR INTACT ☒ ☐ ☐
 WELL LOCKED ☒ ☐ ☐
 OTHER: CAP
 PURGE H2O CONTAINED? ☐ YES ☒ NO
 WELL MATERIAL ☒ PVC ☐ SS
 AMBIENT AIR --- PPM
 WELL MOUTH --- PPM

PURGE DATA

PURGE VOLUME	<u>33</u> GAL	<u>46</u> GAL	<u>79</u> GAL	<u>122</u> GAL	<u>165</u> GAL
TEMP, DEG C	<u>10.8</u>	<u>10.7</u>	<u>10.7</u>	<u>10.8</u>	<u>10.7</u>
PH, UNITS	<u>7.5</u>	<u>7.5</u>	<u>7.4</u>	<u>7.4</u>	<u>7.4</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>522</u>	<u>397</u>	<u>397</u>	<u>390</u>	<u>391</u>

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
 SUBMERSIBLE PUMP ☒ GRUNDFOS#
 BAILER ☒ 2" 4" #
 PVC/SILICON TUBING ☒
 IN-LINE/DISPOSABLE FILTER ☒
 OTHER ☐
 RECON FLUIDS USED ☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG S803	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2	500 ml poly		
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL TT08	YES	4 DEG C	500 ML POLY		
SO4 TT08	YES	4 DEG C	500 ML POLY		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A UM16	NO	4 DEG C	(2) 1 L AG		
NG 99	NO	4 DEG C	1 L AG		
NAM UM06	NO	4 DEG C	1 L AG		
DNT UM26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
 -used historical volumes

SIGNATURE: ReCSAL/NOG

RECEIVED BY: Nancy E. Pate

gnd elev = 3197

ASST elev = 28137

SURF = 733.37

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID 6-11114
LOCATION ACTIVITY START 0945 END 1130

FIELD SAMPLING NUMBER 61114
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 11-23-91
FILE NAME CGW
WEATHER heavy rain

WATER LEVEL / WELL DATA

WELL DEPTH 125.1 FT MEASURED
WATER DEPTH 27.4 FT
HEIGHT OF WATER COLUMN 17.7 FT
WELL DIAMETER 2 INCH
GROUNDWATER ELEVATION (BGIS) 86.72
PROTECTIVE CASING/WELL DIFF. -1.74 FT
TOTAL GAL PURGED 250
WELL INTEGRITY: PROT. CASING SECURE, CONCRETE COLLAR INTACT, WELL LOCKED
PURGE H2O CONTAINED? YES NO
WELL MATERIAL PVC SS
AMBIENT AIR PPM
WELL MOUTH PPM

PURGE DATA

PURGE VOLUME	1.50 GAL	1.50 GAL	1.50 GAL	1.50 GAL	1.50 GAL
TEMP, DEG C	9.0	11.2	8.9	9.9	11.1
pH, UNITS	7.4	7.5	7.5	7.5	7.5
SPECIFIC CONDUCTIVITY umhos/cm	434	435	435	435	437

SAMPLE OBSERVATIONS: CLEAR, CLOUDY, COLORED, TURBID, ODOR, OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING: PERISTALTIC PUMP, SUBMERSIBLE PUMP, BAILER, PVC/SILICON TUBING, IN-LINE/DISPOSABLE FILTER, OTHER
SAMPLING: ISCO #, GROUNDWATER #, 2" 4" #
ECON FLUIDS USED: POTABLE WATER, LIQUINOX, STEAM CLEANING
WATER LEVEL EQUIP. USED: ELECTRIC COND. PROBE, FLOAT ACTIVATED, PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS lot #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1750 / 022280.C
CA	SS16	HNO3 TO pH<2			
NA	SS16	HNO3 TO pH<2			
CD	SS16	HNO3 TO pH<2			
CR	SS16	HNO3 TO pH<2			
HG	SB03	HNO3 TO pH<2			
PB	SD24	HNO3 TO pH<2			
NI	SS16	HNO3 TO pH<2			
BA	SS16	HNO3 TO pH<2			
HARD	USEPA 130.2	HNO3 TO pH<2			1750 / 022280.C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY		1751 / 042810.C
CL	TT08	4 DEG C	500 ML POLY		1752 /
SO4	TT08	4 DEG C			
ALK	USEPA 310.1	4 DEG C	500 ML POLY		1753 /
TDS	USEPA 160.1	4 DEG C			
TOC	USEPA 415.1	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	HCL, 4 DEG C	(3) 40 ML VIAL		1754 / 1755 / 1756 / 021230.C
BN/A	UM16	4 DEG C	(2) 1 L AG		1757 / 1758 / 022810.C
AG	99	4 DEG C	1 L AG		
NAM	UN06	4 DEG C	1 L AG		
DNT	UM26	4 DEG C	1 L AG		
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
-used historical volumes

SIGNATURE: [Signature]
RECEIVED BY: Nancy E. R.

SS-C riser elev. = 865.37

GW elev. = 770.57

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

S-11115

JOB NUMBER

6853-04

SAMPLING DATE

11 24 91

LOCATION ACTIVITY

START 0900 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

prt. cloudy 20% S

WATER LEVEL / WELL DATA

WELL DEPTH

110.95 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.7 FT

PROTECTIVE
CASING/WELL DIFF.

0.3 FT

WATER DEPTH

92.5 FT

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(GWS)

90.13

HEIGHT OF
WATER COLUMN

8.2 FT

16 GAL/FT (2 IN)
65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

39 GAL/VOL

195 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
X X X

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR: A PPM

WELL MOUTH: A PPM

PURGE DATA

PURGE VOLUME

39 GAL

70 GAL

117 GAL

150 GAL

195 GAL

TEMP, DEG C

9.5

9.1

9.2

9.4

6.6

PH, UNITS

8.0

7.76

7.7

7.6

7.7

SPECIFIC CONDUCTIVITY umhos/cm

447

432

433

433

430

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

X

X

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIOQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)
TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

2192

/

/

022230: C

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CO

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

SB03

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

2192

/

/

022230: C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

2193

/

/

022230: C

CL

TT08

YES

4 DEG C

500 ML POLY

2194

/

/

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

2195

/

/

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

2196

/

2197

021230: C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

2199

/

/

021230: C

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UN26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/AA: 1CP)

TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/AA: 1CP)

- used historical volumes

SIGNATURE:

RECEIVED BY:

Nancy E. Roka

QTY = 8604 M SER = 862.31 GW = 770.51
RLEU = 8604 RLEU = 862.31 RLEU = 770.51

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PAGE 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

SITE ID S-11116

JOB NUMBER

LOCATION ACTIVITY START 1045 END 1145

PROGRAM

SAMPLING DATE 11-24-91

FILE NAME CGW

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH 140.8 FT

MEASURED HISTORICAL

WATER DEPTH 91.8 FT

HEIGHT OF WATER COLUMN 49.0 FT

1.16 GAL/FT (2 IN)
1.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

82 GAL/VOL

410 TOTAL GAL PURGED

2.64 FT

WELL DIAMETER 2 INCH 4 INCH 6 INCH

PROTECTIVE CASING/WELL DIFF. 0.45 FT

GROUNDWATER ELEVATION (BAS) 87.61

PURGE H2O CONTAINED? YES NO

WELL MATERIAL PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL INTEGRITY: PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: YES NO N/A

PURGE DATA

PURGE VOLUME

82 GAL

164 GAL

246 GAL

328 GAL

410 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

8.7

9.2

9.4

9.5

8.8

7.4

7.2

7.0

7.3

7.1

490

517

514

515

543

SAMPLE OBSERVATIONS

CLEAR CLOUDY COLORED TURBID ODOR OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP SUBMERSIBLE PUMP BAILER PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER

EQUIPMENT ID

ISCO # GRUNDFOSS # 2" 4" #

DECON FLUIDS USED

POTABLE WATER LIQUINOX STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE FLOAT ACTIVATED PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS Lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		2200 /	0000000000
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			2200 /	0000000000
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2201 /	0000000000
CL TT08	YES	4 DEG C	500 ML POLY		2202 /	0000000000
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		2203 /	0000000000
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			2204 / 2205 / 2206 /	0000000000
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG			2207 /	0000000000
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MC,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

INTL
ELEV = 855.6

FIELD
ELEV = 264.40

2-
ELEV = 757.68

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID S-11117
LOCATION ACTIVITY START 1030 END 1130

FIELD SAMPLING NUMBER 011117
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 11-20-97
FILE NAME CGW
WEATHER part cloudy with

WATER LEVEL / WELL DATA

WELL DEPTH 121.0 FT ☒ MEASURED ☐ TOP OF WELL PROTECTIVE CASING STICK-UP (FROM GROUND) 21.71 FT
WATER DEPTH 94.78 FT ☒ HISTORICAL ☐ TOP OF CASING PROTECTIVE CASING/WELL DIFF. -1.12 FT
HEIGHT OF WATER COLUMN 26.22 FT ☒ 16 GAL/FT (2 IN) 21 GAL/VOL ☐ 2 INCH GROUNDWATER ELEVATION (BGS) 93.14
☒ 65 GAL/FT (4 IN) 215 TOTAL GAL PURGED 105
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)
PURGE H2O CONTAINED? ☒ YES ☐ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR 1.0 PPM WELL MOUTH 1.0 PPM
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: _____

PURGE DATA

	43	86	129	172	215	SAMPLE OBSERVATIONS
PURGE VOLUME	<u>24</u> GAL	<u>47</u> GAL	<u>46</u> GAL	<u>84</u> GAL	<u>18</u> GAL	<input checked="" type="checkbox"/> CLEAR
TEMP, DEG C	<u>7.6</u>	<u>8.0</u>	<u>8.4</u>	<u>8.1</u>	<u>8.4</u>	<input type="checkbox"/> CLOUDY
PH, UNITS	<u>7.87</u>	<u>7.50</u>	<u>7.74</u>	<u>7.71</u>	<u>7.70</u>	<input type="checkbox"/> COLORED
SPECIFIC CONDUCTIVITY umhos/cm	<u>619</u>	<u>620</u>	<u>622</u>	<u>624</u>	<u>622</u>	<input type="checkbox"/> TURBID
						<input type="checkbox"/> OOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
EQUIPMENT ID ISCO #
PERISTALTIC PUMP ☒ SUBMERSIBLE PUMP ☒ BAILER ☒ PVC/SILICON TUBING ☒ IN-LINE/DISPOSABLE FILTER ☐ OTHER _____
DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
MIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*purge H2O contained with for VOCs
- used historical volumes (17)
- see calculations for volumes

SIGNATURE: Paul E. Smith
RECEIVED BY: Nancy E. Roria

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID 5-11118
 LOCATION ACTIVITY START 1300 END 1400

FIELD SAMPLING NUMBER 5-11118
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-12-91
 FILE NAME CGW
 WEATHER Rain 40°

WATER LEVEL / WELL DATA

WELL DEPTH 110.1 FT ☒ MEASURED ☐ HISTORICAL
 WATER DEPTH 100.8 FT
 HEIGHT OF WATER COLUMN 9.3 FT
 TOP OF WELL ☐ TOP OF CASING ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) 2.16 FT
 PROTECTIVE CASING/WELL DIFF. -0.12 FT
 WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH
 GROUNDWATER ELEVATION (BGS) 98.72
 HEIGHT OF WATER COLUMN 9.3 FT X 1.6 GAL/FT (2 IN) = 14.88 GAL/VOL
6.5 GAL/FT (4 IN) = 60.8 GAL/VOL
1.5 GAL/FT (6 IN) = 80 TOTAL GAL PURGED
 PURGE H2O CONTAINED? ☐ YES ☒ NO
 WELL MATERIAL ☒ PVC ☐ SS
 AMBIENT AIR — PPM
 WELL MOUTH — PPM
 WELL INTEGRITY: PROT. CASING SECURE ☐ YES ☐ NO ☐ N/A
 CONCRETE COLLAR INTACT ☐ YES ☐ NO ☐ N/A
 WELL LOCKED ☐ YES ☐ NO ☐ N/A
 OTHER: —

PURGE DATA

PURGE VOLUME	1314	1323	1327	1331	1335
PURGE VOLUME	<u>2.16</u> GAL	<u>2.32</u> GAL	<u>2.48</u> GAL	<u>2.64</u> GAL	<u>2.80</u> GAL
TEMP, DEG C	<u>10.7</u>	<u>10.5</u>	<u>10.8</u>	<u>10.6</u>	<u>10.8</u>
pH, UNITS	<u>7.7</u>	<u>7.7</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>558</u>	<u>554</u>	<u>556</u>	<u>558</u>	<u>547</u>

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER —
 EQUIPMENT ID
 ISCO # —
 GRUNDEOS# —
 2" ☐ 4" ☐ # —
 RECON. FLUIDS USED
☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED
☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
FG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2			
NIT	YES	HNO3 TO pH<2			
CL	YES	HNO3 TO pH<2			
SO4	YES	HNO3 TO pH<2			
ALK	YES	HNO3 TO pH<2			
TDS	YES	HNO3 TO pH<2			
TOC	YES	HNO3 TO pH<2			
NH3N2	YES	HNO3 TO pH<2			
VOC	YES	HNO3 TO pH<2			
BN/A	YES	HNO3 TO pH<2			
NC	YES	HNO3 TO pH<2			
NAM	YES	HNO3 TO pH<2			
DNT	YES	HNO3 TO pH<2			
TPH	YES	HNO3 TO pH<2			
USEPA 130.2	YES	H2SO4 TO pH<2	500 ML POLY		
TF10	YES	4 DEG C	500 ML POLY		
TT08	YES	4 DEG C	500 ML POLY		
TT08	YES	4 DEG C	500 ML POLY		
USEPA 310.1	NO	4 DEG C	500 ML POLY		
USEPA 160.1	NO	4 DEG C	500 ML POLY		
USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
UN17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
UN16	NO	4 DEG C	(2) 1 L AG		
99	NO	4 DEG C	1 L AG		
UN06	NO	4 DEG C	1 L AG		
UN26	NO	4 DEG C	1 L AG		
USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HC,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HC,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: D. D. [Signature]
 RECEIVED BY: Nancy E. [Signature]

300 = 877.6

rise = 879.69

GW = 775.52

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

S-11117

JOB NUMBER

6853-04

SAMPLING DATE

12-10-91

LOCATION

ACTIVITY

START 1430

END 1530

PROGRAM

C

FILE NAME

CGW

WEATHER

CLEAR 30°

WATER LEVEL / WELL DATA

WELL DEPTH

126.6 FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.75 FT

PROTECTIVE CASING/WELL DIFF.

102.43 FT

WATER DEPTH

104.17 FT

WELL DIAMETER

☐ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

102.43

HEIGHT OF WATER COLUMN

22.43 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

31 GAL/VOL

155 TOTAL GAL PURGED

(155)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: C-P

YES NO N/A
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐

PURGE H2O CONTAINED?

☐ YES
☒ NO

WELL MATERIAL

☒ PVC
☐ SS

AMBIENT AIR 0.5 PPM

WELL MOUTH 0.5 PPM

PURGE DATA

PURGE VOLUME

15.45 @ 31 GAL

15.17 @ 6.2 GAL

15.21 @ 9.3 GAL

15.41 @ 10.4 GAL

15.53 @ 15.5 GAL

TEMP, DEG C

10.4

10.4

10.5

10.5

10.5

pH, UNITS

4.37

4.22

4.23

4.18

4.27

SPECIFIC CONDUCTIVITY umhos/cm

66.3

65.4

64.1

63.2

62.4

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: *[Signature]* RR

RECEIVED BY: Nancy E. Rota

grd elev = 877.06

rise elev = 879.76

cell elev = 753.77

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID S-11120

JOB NUMBER 6853-04

SAMPLING DATE 12-8-91

LOCATION ACTIVITY START 1430 END 1515

PROGRAM C

FILE NAME CGW

WEATHER foggy, 30-5

WATER LEVEL / WELL DATA

WELL DEPTH 105.15 FT

MEASURED HISTORICAL

TOP OF WELL TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 254 FT

PROTECTIVE CASING/WELL DIFF. .2 FT

WATER DEPTH 125.99 FT

.16 GAL/FT (2 IN)

34 GAL/VOL

WELL DIAMETER 2 INCH 4 INCH 6 INCH

GROUNDWATER ELEVATION 123.65 (875)

HEIGHT OF WATER COLUMN 20 FT X 1.5 GAL/FT (6 IN) 169 TOTAL GAL PURGED

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

PURGE H2O CONTAINED? YES NO

WELL MATERIAL PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

pump rate - 5 gpm
PURGE VOLUME

PURGE VOLUME	34 GAL	68 GAL	102 GAL	136 GAL	170 GAL
TEMP, DEG C	9.9	9.9	10.0	10.0	10.1
PH, UNITS	7.8	7.7	7.7	7.7	7.70
SPECIFIC CONDUCTIVITY umhos/cm	535	532	532	534	532

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
82" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	MCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UN26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-see attached for volumes

SIGNATURE: Aaron Cohen / TV

RECEIVED BY: Nancy E. P.

3rd
MW = 867.0

riser
elev. = 868.79

GW
elev. = 779.03

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID S-11123
LOCATION ACTIVITY START 0730 END 0930

FIELD SAMPLING NUMBER 51123
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 12-5-91
FILE NAME CGW
WEATHER SNOW 11°

WATER LEVEL / WELL DATA

WELL DEPTH 136 FT ☐ MEASURED ☒ TOP OF WELL PROTECTIVE CASING STICK-UP (FROM GROUND) 1.8 FT
WATER DEPTH 89.71 FT ☐ HISTORICAL ☒ TOP OF CASING PROTECTIVE CASING/WELL DIFF. -1.0 FT
WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH GROUNDWATER ELEVATION (BGS) 88.01
HEIGHT OF WATER COLUMN 46.29 FT x ☐ .16 GAL/FT (2 IN) ☐ .65 GAL/FT (4 IN) ☐ 1.5 GAL/FT (6 IN) ☐ GAL/FT (IN) 85 GAL/VOL 425 TOTAL GAL PURGED 425
PURGE H2O CONTAINED? ☐ YES ☒ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR — PPM WELL MOUTH — PPM
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: CAP

PURGE DATA

	8:47	9:04	9:21	9:38	9:55
PURGE VOLUME	<u>85</u> GAL	<u>170</u> GAL	<u>255</u> GAL	<u>340</u> GAL	<u>425</u> GAL
TEMP, DEG C	<u>7.3</u>	<u>7.9</u>	<u>8.6</u>	<u>8.2</u>	<u>8.1</u>
PH, UNITS	<u>7.72</u>	<u>7.78</u>	<u>7.90</u>	<u>7.95</u>	<u>7.90</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>568</u>	<u>581</u>	<u>574</u>	<u>572</u>	<u>570</u>

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
SUBMERSIBLE PUMP ☒ GRUNDFOS#
BAILER ☒ 2" 4" #
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☒
OTHER —
RECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	2081	022285C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	2081	022285C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	2082	022285C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	2083	022285C
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	2084	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	2085	022285C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	2086	022285C
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UN26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
-used historical volumes

SIGNATURE: Nancy E. Porter
RECEIVED BY: Nancy E. Porter

GRW
ELEV = 876.0

FLOW
ELEV = 379.83

GW
ELEV = 776.13

ABB ENVIRONMENTAL SERVICES, INC.

PAGE _____ OF _____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

51124

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

S-11124

JOB NUMBER

6853-04

SAMPLING DATE

12/1/91

LOCATION
ACTIVITY

START 10:51 END 13:25

PROGRAM

C

FILE NAME

CGW

WEATHER

5-2

WATER LEVEL / WELL DATA

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP
(FROM GROUND)

1.71

PROTECTIVE

CASING/WELL DIFF.

-1.13

WELL DEPTH

136.5

FT

MEASURED
HISTORICAL

WATER DEPTH

105.7

FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

50

GAL/VOL

50

TOTAL GAL PURGED

WELL
DIAMETER

2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION
(BGS)

102.12

HEIGHT OF
WATER COLUMN

32.8

FT

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.2 PPM

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A

PURGE DATA

PURGE VOLUME

20 GAL

40 GAL

GAL

GAL

GAL

TEMP, DEG C

4.9

10.5

PH, UNITS

3.35

3.31

SPECIFIC CONDUCTIVITY umhos/cm

305

311

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

RECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

CA

SS16

YES

HNO3 TO pH<2

NA

SS16

YES

HNO3 TO pH<2

CD

SS16

YES

HNO3 TO pH<2

CR

SS16

YES

HNO3 TO pH<2

HG

S803

YES

HNO3 TO pH<2

PB

SD24

YES

HNO3 TO pH<2

NI

SS16

YES

HNO3 TO pH<2

BA

SS16

YES

HNO3 TO pH<2

HARD

USEPA 130.2

YES

HNO3 TO pH<2

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

500 ML POLY

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAM

UN06

NO

4 DEG C

1 L AG

DNT

UW26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO pH<2

1 L GWM

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

PURGED DRY @ 25.34
REMARKS: 1.20 MINUTES
PURGED DRY - WAITED 20 MIN. SAMPLED

SIGNATURE: *Janet L. R.*
RECEIVED BY: *W. Nancy E. R.*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT: USATHAMA-BAAP
 SITE ID: S-11126
 LOCATION ACTIVITY: START 1345 END 1515

FIELD SAMPLING NUMBER: 31126
 SITE TYPE: WELL
 JOB NUMBER: 6853-04
 PROGRAM: C

SAMPLING DATE: 12/11/91
 FILE NAME: CGW
 WEATHER: CLOUDY 35°

WATER LEVEL / WELL DATA

WELL DEPTH: 116.05 FT
 WATER DEPTH: 91.90 FT
 HEIGHT OF WATER COLUMN: 24.11 FT
 MEASURED HISTORICAL: ☒ MEASURED
 TOP OF WELL: ☒ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND): 2.28 FT
 PROTECTIVE CASING/WELL DIFF.: -0.02 FT
 WELL DIAMETER: 2 INCH
 GROUNDWATER ELEVATION (BGS): 89.64
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 45 GAL/VOL
 225 TOTAL GAL PURGED (225)
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL: PVC SS
 AMBIENT AIR PPM
 WELL MOUTH PPM
 WELL INTEGRITY: PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 OTHER: CAP

PURGE DATA

PURGE VOLUME	245 GAL	290 GAL	2135 GAL	2186 GAL	2225 GAL
TEMP, DEG C	10.9	11.1	10.9	11.0	11.2
PH, UNITS	7.2	7.3	7.4	7.2	7.3
SPECIFIC CONDUCTIVITY umhos/cm	595	602	602	596	602

SAMPLE OBSERVATIONS:
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING: ☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER
 EQUIPMENT ID: ISCO #
 GROUND PDS#
 2" 4" #
 DECON FLUIDS USED: ☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED: ☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1824	0000000000
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2			1824	0000000000
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1824	0000000000
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1825	0000000000
CL TT08	YES	4 DEG C	500 ML POLY		1826	0000000000
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1827	0000000000
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		1828	0000000000
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE: R. G. Smith / ABC

RECEIVED BY: W. Nancy E. [Signature]

4th. elev = 878.3 HSE1 elev. = 880.35 GW elev. = 816.21

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID S-11127

JOB NUMBER 6853-04

SAMPLING DATE 12-3-91

LOCATION

ACTIVITY START 1530 END 1615

PROGRAM C

FILE NAME CGW

WEATHER Snow, 20°'s

WATER LEVEL / WELL DATA

WELL DEPTH 76.91 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.09 FT

PROTECTIVE CASING/WELL DIFF. -0.04 FT

WATER DEPTH 94.74 FT

64.14

WELL DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNWATER ELEVATION (GWS)

62.07

HEIGHT OF

WATER COLUMN 12.77 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

17 GAL/VOL

85

TOTAL GAL PURGED

85

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: LAP

YES AC N/A
☒ ☒ ☒

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

@ 17 GAL

@ 34 GAL

@ 51 GAL

@ 68 GAL

@ 85 GAL

TEMP, DEG C

7.7

8.4

9.1

9.2

9.0

pH, UNITS

8.29

8.30

8.23

8.23

8.16

SPECIFIC CONDUCTIVITY umhos/cm

262

335

266

241

292

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☐ PP METALS (SPECIFIED BELOW)
☐ TAL METALS (SPECIFIED BELOW)
☐ CA
☐ NA
☐ CD
☐ CR
☐ HG
☐ PB
☐ NI
☐ BA
☐ HARD
☐ NIT
☐ CL
☐ SO4
☐ ALK
☐ TDS
☐ TOC
☐ NH3N2
☐ VOC
☐ BN/A
☐ NG
☐ NAM
☐ DNT
☐ TPH

SS16

YES

HNO3 TO pH<2

1 L POLY

/

/

/

/

SS16

YES

HNO3 TO pH<2

/

/

/

/

/

SS16

YES

HNO3 TO pH<2

/

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

/

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

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SS16

YES

HNO3 TO pH<2

/

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/

/

/

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

Nancy E. Rota

3171
 elev. = 877.2 elev. = 879.31

GW
 elev. = 827.77

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PAGE

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

SITE ID

JOB NUMBER

SAMPLING DATE

LOCATION

PROGRAM

FILE NAME

ACTIVITY

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH

77

FT

WATER DEPTH

51.54

FT

HEIGHT OF

WATER COLUMN

26

FT

☐

TOP OF WELL

☐

TOP OF CASING

PROTECTIVE

CASING STICK-UP

2.22

FT

PROTECTIVE

CASING/WELL DIFF.

-0.06

FT

☒

MEASURED

☐

HISTORICAL

☐

.16 GAL/FT (2 IN)

☐

.65 GAL/FT (4 IN)

☐

1.5 GAL/FT (6 IN)

☐

GAL/FT (IN)

21

GAL/VOL

105

TOTAL GAL PURGED

105

WELL DIAMETER

☐

2 INCH

☐

4 INCH

☐

6 INCH

GROUNDWATER

ELEVATION

79.38

(895)

PURGE H2O CONTAINED?

☐ YES

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

0.1

WELL MOUTH

0.1

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CAP

YES

NO

N/A

PURGE DATA

PURGE VOLUME

@ 10 GAL

@ 20 GAL

@ 40 GAL

@ 60 GAL

@ 80 GAL

TEMP, DEG C

8.0

9.0

7.9

8.1

8.0

PH, UNITS

5.23

8.16

6.03

8.01

8.05

SPECIFIC CONDUCTIVITY umhos/cm

270

239

233

233

235

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☐

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

1 L POLY

☐

☐

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO pH<2

☐

☐

CA

SS16

YES

HNO3 TO pH<2

☐

☐

NA

SS16

YES

HNO3 TO pH<2

☐

☐

CD

SS16

YES

HNO3 TO pH<2

☐

☐

CR

SS16

YES

HNO3 TO pH<2

☐

☐

HG

SB03

YES

HNO3 TO pH<2

☐

☐

PB

SD24

YES

HNO3 TO pH<2

☐

☐

NI

SS16

YES

HNO3 TO pH<2

☐

☐

BA

SS16

YES

HNO3 TO pH<2

☐

☐

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ml poly

☒

☐

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

☒

☐

CL

TT08

YES

4 DEG C

500 ML POLY

☒

☐

SO4

TT08

YES

4 DEG C

500 ML POLY

☒

☐

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☐

☐

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

☐

☐

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3)40 ML VIAL

☒

☐

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

☒

☐

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

☒

☐

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☐

☐

NG

99

NO

4 DEG C

1 L AG

☐

☐

NAM

UN06

NO

4 DEG C

1 L AG

☐

☐

DNT

UN26

NO

4 DEG C

1 L AG

☐

3rd elev. = 939.2 1st elev. = 941.1

GWL elev. = 836.74

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

51130

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE

11-24-91

SITE ID

S-11130

JOB NUMBER

6853-04

FILE NAME

CGW

LOCATION ACTIVITY

START 0915

END 1015 1000

PROGRAM

C

WEATHER

part cloudy, 20°C
w. wind ch 11

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.82 FT

PROTECTIVE CASING/WELL DIFF.

-1.26 FT

WELL DEPTH

155.8 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

104.44 FT

WELL DIAMETER
2 INCH
4 INCH
6 INCH

GROUNDWATER ELEVATION (BGS)

103.85

HEIGHT OF WATER COLUMN
51.36 FT X .16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

34 GAL/VOL ~37

44 TOTAL GAL PURGED

180

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1.0 PPM

WELL MOUTH 1.0 PPM

PURGE DATA

PURGE VOLUME

34 GAL

44 GAL

GAL

GAL

GAL

TEMP, DEG C

8.2

8.7

PH, UNITS

9.5/6.5

8.3/6.5

SPECIFIC CONDUCTIVITY umhos/cm

297

244

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDESH H-20

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

purge rate
1.5 gal/min

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

YES

HN03 TO pH<2

1 L POLY

2091

2092

2093

2094

2095

TAL METALS (SPECIFIED BELOW)

YES

HN03 TO pH<2

1 L POLY

2096

2097

2098

2099

2100

CA

SS16

YES

HN03 TO pH<2

1 L POLY

2101

2102

2103

2104

2105

NA

SS16

YES

HN03 TO pH<2

1 L POLY

2106

2107

2108

2109

2110

CO

SS16

YES

HN03 TO pH<2

1 L POLY

2111

2112

2113

2114

2115

CR

SS16

YES

HN03 TO pH<2

1 L POLY

2116

2117

2118

2119

2120

HG

SB03

YES

HN03 TO pH<2

1 L AG

2121

2122

2123

2124

2125

PB

SD24

YES

HN03 TO pH<2

1 L AG

2126

2127

2128

2129

2130

NI

SS16

YES

HN03 TO pH<2

1 L AG

2131

2132

2133

2134

2135

BA

SS16

YES

HN03 TO pH<2

1 L AG

2136

2137

2138

2139

2140

HARD

USEPA 130.2

YES

HN03 TO pH<2

500 ML POLY

2141

2142

2143

2144

2145

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

2146

2147

2148

2149

2150

CL

TT08

YES

4 DEG C

500 ML POLY

2151

2152

2153

2154

2155

SO4

TT08

YES

4 DEG C

500 ML POLY

2156

2157

2158

2159

2160

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

2161

2162

2163

2164

2165

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

2166

2167

2168

2169

2170

TOC

USEPA 415.1

NO

4 DEG C

500 ML POLY

2171

2172

2173

2174

2175

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

2176

2177

2178

2179

2180

VOC

UM17

NO

HCL, 4 DEG C

(3)40 ML VIAL

2181

2182

2183

2184

2185

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

2186

2187

2188

2189

2190

NG

99

NO

4 DEG C

1 L AG

2191

2192

2193

2194

2195

NAM

UN06

NO

4 DEG C

1 L AG

2196

2197

2198

2199

2200

DNT

UN26

NO

4 DEG C

1 L AG

2201

2202

2203

2204

2205

TPH

3rd
3120 = 9409

riser
elev. = 942.17

GW
elev. = 832.17

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
SITE ID S-11131
LOCATION ACTIVITY START 1030 END 1130

FIELD SAMPLING NUMBER 51131
SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 11-24-91
FILE NAME CGW
WEATHER partly cloudy, 20°

WATER LEVEL / WELL DATA

WELL DEPTH 126.75 FT ☐ MEASURED ☒ TOP OF WELL
WATER DEPTH 110.00 FT ☐ HISTORICAL ☒ TOP OF CASING
HEIGHT OF WATER COLUMN 16.75 FT ☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (1 IN)
PURGE H₂O CONTAINED? ☐ YES ☒ NO
WELL MATERIAL ☐ PVC ☐ SS
AMBIENT AIR 1.0 PPM
WELL MOUTH 1.0 PPM
PROTECTIVE CASING STICK-UP (FROM GROUND) 3.56 FT
PROTECTIVE CASING/WELL DIFF. 1.34 FT
WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH
GROUNDWATER ELEVATION (BGS) 107.76
TOTAL GAL PURGED 230
WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A
CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A
WELL LOCKED ☒ YES ☐ NO ☐ N/A
OTHER: _____

PURGE DATA

PURGE VOLUME	<u>28.5</u> GAL	<u>15</u> GAL	<u>0</u> GAL	<u>0</u> GAL	<u>0</u> GAL
TEMP, DEG C	<u>6.8</u>	<u>6.8</u>			
PH, UNITS	<u>7.0</u>	<u>7.0</u>			
SPECIFIC CONDUCTIVITY umhos/cm	<u>293</u>	<u>309</u>			

SAMPLE OBSERVATIONS

☒ CLEAR
☒ CLOUDY very
☒ COLORED lt grey
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ PERISTALTIC PUMP
SAMPLING ☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE DISPOSABLE FILTER
EQUIPMENT ID
ISCO #
GRUNDFOS #
2" ☐ 4" ☐
RECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
NUMBER OF FILTERS USED 1

*purge water went from very clear to very cloudy from 0-8.5 gallons
8.5 → 15 gallons clear to cloudy*

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2			
CA	YES	HNO ₃ TO pH<2			
NA	YES	HNO ₃ TO pH<2			
CO	YES	HNO ₃ TO pH<2			
CR	YES	HNO ₃ TO pH<2			
HG	YES	HNO ₃ TO pH<2			
PB	YES	HNO ₃ TO pH<2			
NI	YES	HNO ₃ TO pH<2			
BA	YES	HNO ₃ TO pH<2			
HARD	YES	HNO ₃ TO pH<2			
NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		
CL	YES	4 DEG C	500 ML POLY		
SO ₄	YES	4 DEG C	500 ML POLY		
ALK	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
TOC	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL		
NH ₃ N	NO	H ₂ SO ₄ TO pH<2	500 ML POLY		
VOC	NO	HCL, 4 DEG C	(3) 40 ML VIAL		
BN/A	NO	4 DEG C	(2) 1 L AG		
AG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H ₂ SO ₄ TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used historical volumes
ph paper used

well recharged 6 gallons in
10 min let recharge after 15 min sampled

SIGNATURE: [Signature]
RECEIVED BY: Nancy E. Korta

3-10
elev = 828.1

7-1-81
elev = 823.27

3-10
elev = 761.93

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE ID S-11133

LOCATION ACTIVITY START 0800 END 0900

FIELD SAMPLING NUMBER 51133

SITE TYPE WELL

JOB NUMBER 6853-04

PROGRAM C

SAMPLING DATE 12 10 91

FILE NAME CGW

WEATHER SUNNY 40°

WATER LEVEL / WELL DATA

WELL DEPTH 76.53 FT ☒ MEASURED ☐ HISTORICAL

WATER DEPTH 66.36 FT

HEIGHT OF WATER COLUMN 30.17 FT X 1.5 GAL/FT (6 IN)

PURGE H₂O CONTAINED? ☒ YES ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

TOP OF WELL ☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1.81 FT

PROTECTIVE CASING/WELL DIFF. - 2.30 FT

WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH

GROUNDWATER ELEVATION (BGS) 66.85

WELL INTEGRITY: PROT. CASING SECURE ☒ YES ☐ NO ☐ N/A

CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A

WELL LOCKED ☒ YES ☐ NO ☐ N/A

OTHER: CAP

PURGE DATA

PURGE VOLUME	<u>2.29</u> GAL	<u>5.58</u> GAL	<u>8.87</u> GAL	<u>11.16</u> GAL	<u>14.45</u> GAL
TEMP, DEG C	<u>8.9</u>	<u>8.9</u>	<u>8.9</u>	<u>9.1</u>	<u>8.7</u>
PH, UNITS	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>	<u>7.5</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>670</u>	<u>640</u>	<u>643</u>	<u>644</u>	<u>643</u>

SAMPLE OBSERVATIONS

☒ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ PERISTALTIC PUMP ☐ SUBMERSIBLE PUMP ☐ BAILER ☐ PVC/SILICON TUBING ☐ IN-LINE/DISPOSABLE FILTER ☐ OTHER

SAMPLING ☒ ISCO # ☐ GRUNDEOS# ☒ 2" ☐ 4" #

EQUIPMENT ID

DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC CONO. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS Ltr #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO ₃ TO pH<2			<u>1456</u>	<u>022201C</u>
<input checked="" type="checkbox"/> NA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CO	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			<u>1456</u>	<u>022201C</u>
<input checked="" type="checkbox"/> NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		<u>1457</u>	<u>070310C</u>
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		<u>1458</u>	
<input checked="" type="checkbox"/> SO ₄	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
<input checked="" type="checkbox"/> NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			<u>1460</u>	<u>021230C</u>
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG			<u>1461</u>	<u>022201C</u>
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG		<u>1462</u>	
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG		<u>1463</u>	
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG		<u>1464</u>	
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM		<u>1465</u>	

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

*Purge H₂O containerized for DNT

- used historical volumes

SIGNATURE: Paul C. Smith/Per

RECEIVED BY: Nancy E. Rofka

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID S-11134

JOB NUMBER

6853-04

LOCATION

ACTIVITY

START 11:30 END 12:00

PROGRAM

C

SAMPLING DATE

12-4-91

FILE NAME

CGW

WEATHER

Sunny 15°F

WATER LEVEL / WELL DATA

WELL DEPTH

181.1 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.27 FT

PROTECTIVE CASING/WELL DIFF.

0.0 FT

WATER DEPTH

143.8 FT

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION (BGS)

142.50

HEIGHT OF WATER COLUMN

37.3 FT

☒ 1.6 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

4.5

TOTAL GAL PURGED

(56)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐

PURGE H2O CONTAINED?

☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

2.0 GAL

2.0 GAL

2.0 GAL

4.5 GAL

0.0 GAL

TEMP, DEG C

8.4

PH, UNITS

7.3

SPECIFIC CONDUCTIVITY umhos/cm

1152

1264

1252

1739

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEPS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA	YES	HNO3 TO pH<2			
NA	YES	HNO3 TO pH<2			
CD	YES	HNO3 TO pH<2			
CR	YES	HNO3 TO pH<2			
HG	YES	HNO3 TO pH<2			
PB	YES	HNO3 TO pH<2			
NI	YES	HNO3 TO pH<2			
BA	YES	HNO3 TO pH<2			
HARD	YES	HNO3 TO pH<2			
NIT	YES	H2SO4 TO pH<2	500 ML POLY		
CL	YES	4 DEG C	500 ML POLY		
SC	YES	4 DEG C	500 ML POLY		
ALK	NO	4 DEG C	500 ML POLY		
TDS	NO	4 DEG C			
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	NO	NCL, 4 DEG C	(3)40 ML VIAL		
BN/A	NO	4 DEG C	(2) 1 L AG		
NG	NO	4 DEG C	1 L AG		
NAM	NO	4 DEG C	1 L AG		
DNT	NO	4 DEG C	1 L AG		
TPH	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA/CP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA/CP)

- used historical volumes
- purged 1 gal on 11-25-91 w/ bailer
- purged 1 gal on 12-3-91 w/ bailer

SIGNATURE:

RECEIVED BY:

Wanda E. [Signature]

See notes on back

ABB ENVIRONMENTAL SERVICES, INC.

PAGE _____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER 5-11145

SITE ID 5-11145

SITE TYPE WELL

SAMPLING DATE 11/17/91

LOCATION ACTIVITY

START 1330

END 1330

JOB NUMBER 6853-04

PROGRAM C

FILE NAME CGW

WEATHER RR

WATER LEVEL / WELL DATA

WELL DEPTH FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) FT

PROTECTIVE CASING/WELL DIFF.

WATER DEPTH FT

WELL DIAMETER ☐ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER ELEVATION

HEIGHT OF

WATER COLUMN FT X

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE ☐ YES ☐ NO ☐ NA
CONCRETE COLLAR INTACT ☐ YES ☐ NO ☐ NA
WELL LOCKED ☐ YES ☐ NO ☐ NA
OTHER ☐ YES ☐ NO ☐ NA

PURGE H2O CONTAINED? ☐ YES ☐ NO

WELL MATERIAL ☐ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

PURGE DATA

PURGE VOLUME

 GAL

 GAL

 GAL

 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

☐ 2" ☐ 4" #

DECON FLUID

POTABLE WATER
LIGHTNING
STRAIN CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED ☐ PRESERVATION ☐

METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

☐ PP METALS (SPECIFIED BELOW)

☐ TAL METALS (SPECIFIED BELOW)

☐ CA SS16 YES HNO3 TO pH<2 1 L POLY

☐ NA SS16 YES HNO3 TO pH<2

☐ CD SS16 YES HNO3 TO pH<2

☐ CR SS16 YES HNO3 TO pH<2

☐ HG SB03 YES HNO3 TO pH<2

☐ PB SD24 YES HNO3 TO pH<2

☐ NI SS16 YES HNO3 TO pH<2

☐ BA SS16 YES HNO3 TO pH<2

☐ HARD USEPA 330.2 YES HNO3 TO pH<2

☐ NIT TF10 YES H2SO4 TO pH<2 500 ML POLY

☐ CL TT08 YES 4 DEG C 500 ML POLY

☐ SO4 TT08 YES 4 DEG C 500 ML POLY

☐ ALK USEPA 310.1 NO 4 DEG C

☐ TDS USEPA 160.1 NO 4 DEG C

☐ TOC USEPA 415.1 NO H2SO4 TO pH<2 (3) 40 ML VIAL

☐ NH3N2 USEPA 350.2 NO H2SO4 TO pH<2 500 ML POLY

☐ VCC UM17 NO HCL, 4 DEG C (3) 40 ML VIAL

☐ BN/A UM16 NO 4 DEG C (2) 1 L AG

☐ NG 99 NO 4 DEG C 1 L AG

☐ NAM UN06 NO 4 DEG C 1 L AG

☐ DNT UW26 NO 4 DEG C 1 L AG

☐ TPH USEPA 418.1 NO H2SO4 TO pH<2 1 L GWM

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, MG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: N. Roka

RECEIVED BY: Nancy E. Roka

1700
2120 = 852.00

600
2120 = 769.45

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

51146

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

S-1146

JOB NUMBER

6853-04

LOCATION

ACTIVITY

START 1045

END 1130

PROGRAM

C

SAMPLING DATE

11-22-91

FILE NAME

CGW

WEATHER

overcast, 30's-40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.90 FT

PROTECTIVE
CASING/WELL DIFF.

(6.00) Flush

WELL DEPTH

93.6 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

89.23 FT

HEIGHT OF

WATER COLUMN

4.4 FT

☐ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

TOTAL GAL PURGED

14

WELL
DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

27.33

PURGE H2O CONTAINED?
☒ YES ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1.9 PPM

WELL MOUTH 1.8 PPM

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER: cap

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE DATA

PURGE VOLUME

@ .3 GAL

@ GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

11.1

7.6

443

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA

NA

CD

CR

HG

PB

NI

BA

HARD

NIT

CL

SO4

ALK

TDS

TOC

MH3N2

VOC

BN/A

NG

NAM

DNT

TPH

USEPA 130.2

TF10

TT08

TT08

USEPA 310.1

USEPA 160.1

USEPA 415.1

USEPA 350.2

UM17

UM16

99

UN06

UN26

USEPA 418.1

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

H2SO4 TO pH<2

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2

H2SO4 TO pH<2

HCL, 4 DEG C

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2

1 L POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

500 ML POLY

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500 ML POLY

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NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

- purge H2O contained for VOCs
- used historical volumes
bottom very sandy

SIGNATURE: Paul C. Smith

RECEIVED BY: Nancy E. Roka

used - dry after 1/2 gal. - purging w/ Bailer. Was not effective

grd
elev = 807.5

riser
elev. = 813.15

GW
elev = 761.60

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

38311528

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

12-11-91 sample

SITE ID S-83-11528

JOB NUMBER

6853-04

SAMPLING DATE

12/11/91 purge

LOCATION

ACTIVITY

START ~~10/1/91~~ END ~~03/01/92~~ 0915

PROGRAM

C

FILE NAME

CGW

WEATHER

OVERCAST

WATER LEVEL / WELL DATA

WELL DEPTH

67.45 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

3.65 FT

PROTECTIVE
CASING/WELL DIFF.

- 6.17 FT

WATER DEPTH

51.55 FT

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

48.67

HEIGHT OF
WATER COLUMN

15.90 FT

☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN)
☐ 1.5 GAL/FT (6 IN)
☐ GAL/FT (IN)

GAL/VOL

29

TOTAL GAL PURGED

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

OTHER: CAP

YES NO N/A

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

☒ ☐ ☐

PURGE H2O CONTAINED?

☐ YES ☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR

4 PPM

WELL MOUTH

4 PPM

PURGE DATA

PURGE VOLUME

	12/10/91	12/11/91			
	2.3 GAL	2.13 GAL			
TEMP, DEG C	5.4	7.7			
PH, UNITS	5.27	5.25			
SPECIFIC CONDUCTIVITY umhos/cm	731	741			

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD
NUMBER

FILTERED

PRESERVATION
METHOD

VOLUME
REQUIRED

SAMPLE
COLLECTED

SAMPLE BOTTLE ID NUMBERS

ESS lot #

<input checked="" type="checkbox"/>	PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY					
<input checked="" type="checkbox"/>	TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	CA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	NA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	CD	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	CR	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	HG	SB03	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	PB	SD24	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	NI	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	BA	SS16	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	HARD	USEPA 130.2	YES	HNO3 TO pH<2						
<input checked="" type="checkbox"/>	NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY					
<input checked="" type="checkbox"/>	CL	TT08	YES	4 DEG C	500 ML POLY					
<input checked="" type="checkbox"/>	SO4	TT08	YES	4 DEG C						
<input checked="" type="checkbox"/>	ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY					
<input checked="" type="checkbox"/>	TDS	USEPA 160.1	NO	4 DEG C						
<input checked="" type="checkbox"/>	TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL					
<input checked="" type="checkbox"/>	NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY					
<input checked="" type="checkbox"/>	VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL					
<input checked="" type="checkbox"/>	BN/A	UM16	NO	4 DEG C	(2) 1 L AG					
<input checked="" type="checkbox"/>	NG	99	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/>	NAM	UN06	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/>	DNT	UN26	NO	4 DEG C	1 L AG					
<input checked="" type="checkbox"/>	TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM					

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

12/11/91
- went dry at ~250 gal. No readings were
able to be taken before dry. will get
readings when go to sample. only sampled well 1300

SIGNATURE: John Cate RR

RECEIVED BY: Wendy E. Roper

11/4/91 - Purged 14 gal. 11 with the SUBMERSIBLE PUMP, 3 with the BAILER
2119 Sampled

grd elev. = 905.2

riser elev. = 908.00

GW elev. = 777.23

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID S-11153
 LOCATION ACTIVITY START 1500 END 1600

FIELD SAMPLING NUMBER 31153
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-5-91
 FILE NAME CGW
 WEATHER Snow 20°F

WATER LEVEL / WELL DATA

WELL DEPTH 131.20 FT MEASURED
 WATER DEPTH 131.27 FT HISTORICAL
 HEIGHT OF WATER COLUMN 9.4 FT
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR 0.6 PPM
 WELL MOUTH 0.6 PPM
 TOP OF WELL TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 1.45 FT
 PROTECTIVE CASING/WELL DIFF. -0.07 FT
 WELL DIAMETER 2 INCH 4 INCH 6 INCH
 GROUNDWATER ELEVATION (BGS) 129.42
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A
 CONCRETE COLLAR INTACT YES NO N/A
 WELL LOCKED YES NO N/A
 OTHER: YES NO N/A

PURGE DATA

PURGE VOLUME	@ 13 GAL	@ 20 GAL	@ 37 GAL	@ 51 GAL	@ 65 GAL
TEMP, DEG C	8.8	7.4	7.4	7.4	7.4
PH, UNITS	7.4	7.4	7.4	7.4	7.4
SPECIFIC CONDUCTIVITY umhos/cm	740	777	777	777	777

SAMPLE OBSERVATIONS
☒ CLEAR
☒ CLOUDY
☒ COLORED
☒ TURBID
☒ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING PERISTALTIC PUMP SUBMERSIBLE PUMP BAILER PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER
 EQUIPMENT ID ISCO # GRUNDEOS# 2" 4" #
 RECON FLUIDS USED POTABLE WATER LIQUINOX STEAM CLEANING
 WATER LEVEL EQUIP. USED ELECTRIC COND. PROBE FLOAT ACTIVATED PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1114 / 022280.C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			
CA SS16	YES	HNO3 TO pH<2			
NA SS16	YES	HNO3 TO pH<2			
CD SS16	YES	HNO3 TO pH<2			
CR SS16	YES	HNO3 TO pH<2			
HG SB03	YES	HNO3 TO pH<2			
PB SD24	YES	HNO3 TO pH<2			
NI SS16	YES	HNO3 TO pH<2			
BA SS16	YES	HNO3 TO pH<2			
HARD USEPA 130.2	YES	HNO3 TO pH<2			
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1114 / 022280.C	
CL TT08	YES	4 DEG C	500 ML POLY	1115 / 04760.C	
SO4 TT08	YES	4 DEG C		1116 /	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1117 /	
TDS USEPA 160.1	NO	4 DEG C			
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH342 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		1118 / 1119 / 1120 / 022280.C	
BN/A UM16	NO	4 DEG C (2) 1 L AG		1121 / 1122 / 04760.C	
AG 99	NO	4 DEG C	1 L AG		
NAM UN06	NO	4 DEG C	1 L AG		
DNT UW26	NO	4 DEG C	1 L AG		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:7CP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HI,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CF)
 -used historical volumes
 -Samples were very turbid, although purge water seemed clear
 SIGNATURE: Nancy E.
 RECEIVED BY: Nancy E.

$$G_{\text{eff}} = 762.18$$

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PAGE OF

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT | USATHAMA-BAAP

SITE TYPE	WELL
-----------	------

SITE ID	8	-	8	3	-	1	1	4	7
---------	---	---	---	---	---	---	---	---	---

JOB NUMBER	6853-04
------------	---------

SAMPLING DATE 11.20.71

LOCATION		
ACTIVITY	START 0730	END 0930

PROGRAM	C
---------	---

FILE NAME	CGW
-----------	-----

WEATHER Sunny, 40°s-50°s

WATER LEVEL / WELL DATA

WATER LEVEL / WELL DATA		<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING		PROTECTIVE CASING STICK-UP (FROM GROUND)	<input type="checkbox"/> PROTECTIVE CASING/WELL DIFF.
WELL DEPTH	71.7 FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL		1.64 FT	-0.31 FT
WATER DEPTH	54.96 FT			WELL DIAMETER	<input type="checkbox"/> 2 INCH <input checked="" type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH
HEIGHT OF WATER COLUMN	16.74 FT	<input type="checkbox"/> 16 GAL/FT (2 IN) <input checked="" type="checkbox"/> 3.65 GAL/FT (4 IN)= <input type="checkbox"/> 1.5 GAL/FT (6 IN) <input type="checkbox"/> GAL/FT (IN)	7 GAL/VOL		GROUNDWATER ELEVATION (BGS)
			35	TOTAL GAL PURGED	53.63
				32	
PURGE H2O CONTAINED?		WELL MATERIAL	AMBIENT AIR	WELL MOUTH	WELL INTEGRITY:
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	0.8 PPM	0.8 PPM	PROT. CASING SECURE CONCRETE COLLAR INTACT WELL LOCKED OTHER: cap	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/>

PURGE DATA

PURGE VOLUME	<u>2</u> <u>7</u> GAL	<u>2</u> <u>14</u> GAL	<u>2</u> <u>21</u> GAL	<u>2</u> <u>28</u> GAL	<u>2</u> <u>35</u> G.
TEMP, DEG C	<u>9.2</u>	<u>9.1</u>	<u>9.3</u>	<u>9.2</u>	<u>9.0</u>
PH, UNITS	<u>7.1</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>661</u>	<u>605</u>	<u>603</u>	<u>615</u>	<u>604</u>

☒ CLEAR
☐ CLOUDY
☐ COLORED _____
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

SAMPLE OBSERVATIONS

EQUIPMENT DOCUMENTATION

PURGING		SAMPLING		EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP	ISCO #	<input checked="" type="checkbox"/>	POTABLE WATER	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP	GRUNDFOS#	<input type="checkbox"/>	LIIQUINOX	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BAILER	<input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" #	<input type="checkbox"/>	STEAM CLEANING	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PVC/SILICON TUBING				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	IN-LINE/DISPOSABLE FILTER				
<input type="checkbox"/>	<input checked="" type="checkbox"/>	OTHER				
				NUMBER OF FILTERS USED		1

ANALYTICAL PARAMETERS

ANALYTICAL PARAMETERS		METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS				
PP METALS (SPECIFIED BELOW)			YES	HNO3 TO pH<2	1 L POLY						ESS lot #
TAL METALS (SPECIFIED BELOW)			YES	HNO3 TO pH<2							
CA	SS16	YES	HNO3 TO pH<2			1468					0222501 C
NA	SS16	YES	HNO3 TO pH<2								
CD	SS16	YES	HNO3 TO pH<2								
CR	SS16	YES	HNO3 TO pH<2								
HG	S303	YES	HNO3 TO pH<2								
PB	SD24	YES	HNO3 TO pH<2								
NI	SS16	YES	HNO3 TO pH<2								
BA	SS16	YES	HNO3 TO pH<2								
HARD	USEPA 130.2	YES	HNO3 TO pH<2			1468					0222501
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1469					0422101 C
CL	TT08	YES	4 DEG C	500 ML POLY		1470					
SO4	TT08	YES	4 DEG C								
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1471					
TDS	USEPA 160.1	NO	4 DEG C								
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL							
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY							
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		1472	1473	1474			0212301 C
BA/A	UM16	NO	4 DEG C	(2) 1 L AG		1475	1476				0123101 C
NG	99	NO	4 DEG C	1 L AG		1477					
NAM	UN06	NO	4 DEG C	1 L AG		1478					
DNT	UW26	NO	4 DEG C	1 L AG		1479					
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM							

NOTES

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS(Al, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* purge H₂O containerized for VOCs
- used historical volumes

SIGNATURE: Frank C. Smith

RECEIVED BY: J Vamsu F Ranga

920 1-7195 5755 = 803 69 ELEV. = 791 94

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

5831143

PAGE 1

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SAMPLING DATE

12-13-91

SITE ID

S-83-1143

JOB NUMBER

6853-04

FILE NAME

CGW

LOCATION ACTIVITY

START 0815 END 0900

PROGRAM

C

WEATHER

SUNNY 35°C

WATER LEVEL / WELL DATA

WELL DEPTH

54.7 FT

MEASURED
HISTORICAL

WATER DEPTH

41.75 FT

HEIGHT OF WATER COLUMN

120 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

13 GAL/VOL

6.5 TOTAL GAL PURGED

WELL DIAMETER

2 INCH
4 INCH
6 INCH

PROTECTIVE CASING/WELL DIFF.

0.0 FT

GROUNDWATER ELEVATION (BGS)

39.95

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
[] [] []
[] [] []
[] [] []
[] [] []

PURGE H2O CONTAINED?

WELL MATERIAL

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

0904 @ 1.3 GAL

0908 @ 2.6 GAL

0912 @ 3.9 GAL

0916 @ 5.2 GAL

0920 @ 6.5 GAL

TEMP, DEG C

8.7

8.7

8.7

8.5

8.9

PH, UNITS

6.4

6.5

7.1

7.1

7.2

SPECIFIC CONDUCTIVITY umhos/cm

637

637

637

637

637

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1480	0222501C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2			1480	0222501C
NIT	YES	H2SO4 TO pH<2	500 ML POLY		1481	0203101C
CL	YES	4 DEG C	500 ML POLY		1482	
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY		1483	
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		1484	0212501C
BN/A	NO	4 DEG C	(2) 1 L AG		1485	0212501C
NG	NO	4 DEG C	1 L AG		1486	
NAM	NO	4 DEG C	1 L AG		1487	
DNT	NO	4 DEG C	1 L AG		1488	
TPH	NO	H2SO4 TO pH<2	1 L GWM		1489	
	NO				1490	
	NO				1491	

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

3rd
elev = 803.6

riser
elev. = 807.64

GW
elev = 762.72

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

8831149

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID 8-83-1149

JOB NUMBER

6853-04

SAMPLING DATE 12-13-91

LOCATION
ACTIVITY

START 1145 END 1245

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny
46°

WATER LEVEL / WELL DATA

WELL DEPTH 63.40 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.3 FT

PROTECTIVE
CASING/WELL DIFF.

-0.11 FT

WATER DEPTH 44.92 FT

WELL
DIAMETER

☒ 2 INCH
☒ 4 INCH
☐ 6 INCH

GROUNDWATER
ELEVATION
(BGS)

42.73

HEIGHT OF

WATER COLUMN 18.48 FT

☒ .16 GAL/FT (2 IN)
☒ .65 GAL/FT (4 IN)
☒ 1.5 GAL/FT (6 IN)

14 GAL/VOL

TOTAL GAL PURGED

70

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

PURGE H2O CONTAINED?
☐ YES ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

PURGE DATA

PURGE VOLUME

1157 1201 1205 1209 1213
@ 14 GAL @ 26 GAL @ 42 GAL @ 56 GAL @ 70 GAL

TEMP, DEG C

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

7.6 7.8 7.5 7.7 7.6
7.7 7.6 7.6 7.6 7.6
547 540 548 546 544

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GRUNDFOS #
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		ESS 1st #
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			1492 / 0222801C
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	SB03	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			1492 / 0222801C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1493 / 0703101C
CL	TT08	YES	4 DEG C	500 ML POLY		1494
SO4	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1495
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			1496 / 1497 / 1498 / 0222801C
BN/A	UM16	NO	4 DEG C (2) 1 L AG			1499 / 1500 / 0126101C
NG	99	NO	4 DEG C	1 L AG		1501
NAM	UN06	NO	4 DEG C	1 L AG		1502
DNT	UN26	NO	4 DEG C	1 L AG		1503
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

-used historical volumes

SIGNATURE:

RECEIVED BY:

[Signature]
Nancy E. Rota

Grid
elev. = 893.1

NSR
elev. = 897.50

GU
elev. = 776.60

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

S-11150

SITE ID S-11150

SITE TYPE WELL

JOB NUMBER 6853-04

SAMPLING DATE 11-24-91

LOCATION ACTIVITY START 1515 END 1615

PROGRAM C

FILE NAME CGW

WEATHER overcast
Elev. 150
Feet

WATER LEVEL / WELL DATA

WELL DEPTH 137.30 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.90 FT

PROTECTIVE
CASING/WELL DIFF. -0.08 FT

WATER DEPTH 120.88 FT

.16 GAL/FT (2 IN)
.65 GAL/FT (4 IN)
1.5 GAL/FT (6 IN)
GAL/FT (IN)

28 GAL/VOL

WELL
DIAMETER 2 INCH
4 INCH
6 INCH

GROUNDWATER
ELEVATION (BGS) 119.06

HEIGHT OF
WATER COLUMN 164.2 FT

1.40

TOTAL GAL PURGED

140

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
OTHER:

PURGE H2O CONTAINED?
YES NO

WELL MATERIAL
PVC SS

AMBIENT AIR 10 PPM

WELL MOUTH 1.0 PPM

PURGE DATA

15:25:30 15:31 15:36:30 15:42 15:47:30

PURGE VOLUME

28 GAL 56 GAL 84 GAL 112 GAL 140 GAL

TEMP, DEG C

9.8 10.1 9.8 9.8 9.3

pH, UNITS

6.7 6.5 6.5 6.6 6.3

SPECIFIC CONDUCTIVITY umhos/cm

602 608 620 623 633

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
CRUNDIFOS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		ESS 1st #
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2			
CA	SS16	YES	HNO3 TO pH<2			
NA	SS16	YES	HNO3 TO pH<2			
CD	SS16	YES	HNO3 TO pH<2			
CR	SS16	YES	HNO3 TO pH<2			
HG	S803	YES	HNO3 TO pH<2			
PB	SD24	YES	HNO3 TO pH<2			
NI	SS16	YES	HNO3 TO pH<2			
BA	SS16	YES	HNO3 TO pH<2			
HARD	USEPA 130.2	YES	HNO3 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		
CL	TT08	YES	4 DEG C	500 ML POLY		
SO4	TT08	YES	4 DEG C			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
NG	99	NO	4 DEG C	1 L AG		
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UN26	NO	4 DEG C	1 L AG		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

- used historical volumes

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. [Signature]

gnd elev = 210.7
 elev = 210.7

GW elev = 777.93

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID S-11151
 LOCATION ACTIVITY START 1415 END 1500

FIELD SAMPLING NUMBER 51151
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 11-24-91
 FILE NAME CGW
 WEATHER Sunny/flooding, 20°s

WATER LEVEL / WELL DATA

WELL DEPTH 138.25 FT
 WATER DEPTH 115.45 FT
 HEIGHT OF WATER COLUMN 22.80 FT
 MEASURED HISTORICAL
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOP OF WELL TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 1.08 FT
 PROTECTIVE CASING/WELL DIFF. -0.12 FT
 WELL DIAMETER 2 INCH
 GROUNDWATER ELEVATION (BGS) 113.69
 TOTAL GAL PURGED 60
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 OTHER:
 PURGE H2O CONTAINED? YES NO
 WELL MATERIAL PVC SS
 AMBIENT AIR PPM
 WELL MOUTH PPM

PURGE DATA

PURGE VOLUME	2.12 GAL	2.24 GAL	2.36 GAL	2.48 GAL	2.60 GAL
TEMP, DEG C	9.2	9.6	9.8	9.8	9.7
PH, UNITS	6.9	6.6	6.7	6.65	6.6
SPECIFIC CONDUCTIVITY umhos/cm	537	544	562	563	568

SAMPLE OBSERVATIONS
 CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOUR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 EQUIPMENT ID
 ISCO #
 GRUNDFOS #
 2" 4" #
 DECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1556	0222801C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1556	0222801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1557	0222801C
CL TT08	YES	4 DEG C	500 ML POLY		1558	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1559	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		1560	0222801C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1561	
NG 99	NO	4 DEG C	1 L AG		1562	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- used historical volumes

SIGNATURE: D. P. Dione
 RECEIVED BY: Nancy E. Rofa

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SCHAEFER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SCHAEFER

JOB NUMBER

6853-04

SAMPLING DATE

12.4.91

LOCATION

ACTIVITY

START 0755 END 1010

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 29F

W. Wind 11

WATER LEVEL / WELL DATA

WELL DEPTH

FT

MEASURED

HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

FT

PROTECTIVE

CASING/WELL DIFF.

FT

WATER DEPTH

FT

MEASURED

HISTORICAL

HEIGHT OF

WATER COLUMN

FT

MEASURED

HISTORICAL

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HISTORICAL

MEASURED

HISTORICAL

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID SPEAR
 LOCATION ACTIVITY START 1020 END 1035

FIELD SAMPLING NUMBER SPEAR
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-4-91
 FILE NAME CGW
 WEATHER Sunny, -25°F dry

WATER LEVEL / WELL DATA

WELL DEPTH FT ☐ MEASURED ☐ TOP OF WELL
 HISTORICAL ☐ TOP OF CASING
 WATER DEPTH FT ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) FT
 PROTECTIVE CASING/WELL DIFF FT
 WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH
 GROUNDWATER ELEVATION
 HEIGHT OF WATER COLUMN FT X ☐ .16 GAL/FT (2 IN)
☐ .65 GAL/FT (4 IN) = GAL/VOL
☐ 1.5 GAL/FT (6 IN) TOTAL GAL PURGED
☐ GAL/FT (IN)
 PURGE H2O CONTAINED? ☐ YES ☐ NO ☐ WELL MATERIAL ☐ PVC ☐ SS
 AMBIENT AIR PPM WELL MOUTH PPM
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☐ ☐ ☐
 CONCRETE COLLAR INTACT ☐ ☐ ☐
 WELL LOCKED ☐ ☐ ☐
 OTHER:

PURGE DATA

PURGE VOLUME 10.3pm
 TEMP, DEG C
 pH, UNITS
 SPECIFIC CONDUCTIVITY umhos/cm
 @ 150 GAL @ GAL @ GAL @ GAL @ GAL
 SAMPLE OBSERVATIONS: CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ OOR ☐ OTHER (SEE NOTES) ☐

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐
 PERISTALTIC PUMP ☐ EQUIPMENT ID
 SUBMERSIBLE PUMP ☐ ISCO #
 BAILER ☐ GRUNDFOSS #
 PVC/SILICON TUBING ☐ 2" ☐ 4" #
 IN-LINE/DISPOSABLE FILTER ☐
 OTHER ☐
 DECON FLUIDS USED: ☐ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED: ☐ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		ESS kit #
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			2270 / 22280.C
CA	SS16	HNO3 TO pH<2			
NA	SS16	HNO3 TO pH<2			
CD	SS16	HNO3 TO pH<2			
CR	SS16	HNO3 TO pH<2			
HG	SB03	HNO3 TO pH<2			
PB	SD24	HNO3 TO pH<2			
NI	SS16	HNO3 TO pH<2			
BA	SS16	HNO3 TO pH<2			
HARD	USEPA 130.2	HNO3 TO pH<2			2270 / 22280.C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY		2271 / 210310.C
CL	TT08	4 DEG C	500 ML POLY		2272 /
SO4	TT08	4 DEG C			
ALK	USEPA 310.1	4 DEG C	500 ML POLY		2273 /
TDS	USEPA 160.1	4 DEG C			
TOC	USEPA 415.1	H2SO4 TO pH<2	(3)40 ML VIAL		
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY		
VOC	UM17	HCL, 4 DEG C	(3)40 ML VIAL		2274 / 2275 / 2276 / 221230.C
BN/A	UM16	4 DEG C	(2) 1 L AG		2277 / 2278 / 212810.C
NG	99	4 DEG C	1 L AG		
NAM	UN06	4 DEG C	1 L AG		
DNT	UN26	4 DEG C	1 L AG		
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

purged sink in the cow barn for 15 min,
 and sampled from the sink.

-Not filtered

SIGNATURE: James Vauger
 RECEIVED BY: Wendy F. Roto

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP
 SITE ID PREMO
 LOCATION ACTIVITY START 0925 END 0740

SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12.4.91
 FILE NAME CGW
 WEATHER Sunny, -25°F

WATER LEVEL / WELL DATA

WELL DEPTH FT ☐ MEASURED ☐ TOP OF WELL ☐ TOP OF CASING ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) FT
 WATER DEPTH FT ☐ HISTORICAL ☐ PROTECTIVE CASING/WELL DIFF. FT
 HEIGHT OF WATER COLUMN FT X GAL/FT (2 IN) GAL/VOL
 GAL/FT (4 IN) GAL/FT (6 IN) GAL/FT (IN) TOTAL GAL PURGED
 PURGE H2O CONTAINED? ☐ YES ☐ NO ☐ PVC ☐ SS ☐ AMBIENT AIR PPM ☐ WELL MOUTH PPM
 WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH GROUNDWATER ELEVATION
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☐ ☐ ☐
 CONCRETE COLLAR INTACT ☐ ☐ ☐
 WELL LOCKED ☐ ☐ ☐
 OTHER:

PURGE DATA

PURGE VOLUME 10-gpm 2 150 GAL 2 GAL 2 GAL 2 GAL 2 GAL
 TEMP, DEG C 6.0
 pH, UNITS 8.35
 SPECIFIC CONDUCTIVITY umhos/cm 1042
 SAMPLE OBSERVATIONS: ☐ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOOR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐
 PERISTALTIC PUMP ☐ EQUIPMENT ID
 SUBMERSIBLE PUMP ☐ ISCO #
 BAILER ☐ GRUNDFOS#
 PVC/SILICON TUBING ☐ 2"
 IN-LINE/DISPOSABLE FILTER ☐
 OTHER ☐
 DECON FLUIDS USED: ☐ POTABLE WATER ☐ ELECTRIC COND. PROBE
☐ LTQUINOX ☐ FLOAT ACTIVATED
☐ STEAM CLEANING ☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS Lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			2246	022200C
NA SS16	YES	HNO3 TO pH<2			2246	022200C
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARO USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2246	022200C
CL TT08	YES	4 DEG C	500 ML POLY		2247	022200C
SO4 TT08	YES	4 DEG C	500 ML POLY		2248	022200C
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		2249	022200C
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		2250	022200C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		2251	022200C
NG 99	NO	4 DEG C	1 L AG		2252	022200C
NAM UN06	NO	4 DEG C	1 L AG		2253	022200C
DNT UW26	NO	4 DEG C	1 L AG		2254	022200C
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		2255	022200C

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

Source located at outside water pump
 for 15 min.
 -Not filtered

SIGNATURE: Nancy E. P. Ba
 RECEIVED BY: Nancy E. P. Ba

Appendix G.4
Field Data Records - Round Two

ABB ENVIRONMENTAL SERVICES, INC.

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **BGM91-01**

PROJECT: **USATHAMA-SAAP**

SITE TYPE: **WELL**

SITE ID: **BGM-91-01**

JOB NUMBER: **6853-04**

SAMPLING DATE: **4/9/92**

LOCATION:

PROGRAM: **C**

FILE NAME: **CGW**

ACTIVITY: START **1500** END **1600**

WEATHER: **Sunny, 50's**

WATER LEVEL / WELL DATA

WELL DEPTH: **73** FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND): **1.25** FT

PROTECTIVE CASING/WELL DIFF.: **15** FT

WATER DEPTH: **65.65** FT

25 GAL/VOL **(23)**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION: **876.01**

HEIGHT OF WATER COLUMN: **8** FT

125 TOTAL GAL PURGED **(16)**

GROUNDWATER ELEVATION: **810.41**

PURGE H₂O CONTAINING?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **0** PPM

WELL MOUTH **0** PPM

WELL DIAMETER: **2** INCH
4 INCH

PURGE DATA

PURGE VOLUME	25 GAL	50 GAL	75 GAL	100 GAL	125 GAL
TEMP, DEG C	12.2	12.3	12.2	12.2	12.3
PH, UNITS <input checked="" type="checkbox"/> pH PAPER	6.5	6.5	6.5	6.5	6.5
SPECIFIC CONDUCTIVITY umhos/cm	304	293	278	272	300
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING: ☒ SAMPLING: ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS # **2**
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION: **873.8**

NUMBER OF FILTERS USED: **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
AL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			2067	012235 C
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CO	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2			2068	012235 C
NIT	YES	H2SO4 TO pH<2	500 ML POLY		2067	052310
CL	YES	4 DEG C	500 ML POLY		2070	
SC4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY		2071	
TDS	NO	4 DEG C				
TCC	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3) 40 ML VIAL		2072	042370 C
BN/A	NO	4 DEG C	(2) 1 L AG		2075	012310 C
NG	NO	4 DEG C	1 L AG		2076	
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*
RECEIVED BY: *[Signature]*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

BGM9102

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID BGM-91-02

JOB NUMBER

6853-04

SAMPLING DATE

4-9-92

LOCATION

ACTIVITY START 1345 END 1445

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 50°C

WATER LEVEL / WELL DATA

WELL DEPTH 85.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

FT

PROTECTIVE CASING/WELL DIFF. FT

WATER DEPTH 77.20 FT

15 GAL/VOL

(15)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

876.61

HEIGHT OF WATER COLUMN 8 FT

75 TOTAL GAL PURGED

(75)

GROUNDWATER ELEVATION

799.41

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

0.15 GAL 0.30 GAL 0.45 GAL 0.60 GAL 0.75 GAL

TEMP, DEG C

pH, UNITS ☒ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.8	10.9	10.7	11.0	11.0
6.5	6.5	6.5	6.5	6.5
413	416	419	412	415

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐
☐
☐
☐
☐

☒
☒
☒
☒
☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# 2
8.2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

874.4

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		2077	0122501C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			2077	0122501C
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY		2078	0122501C
CL TT08	YES	4 DEG C	500 ML POLY		2079	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		2080	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		2081	0122501C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		2084	0122501C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

G. J. ...
Nancy E. ...

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

BGM-91-03

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID BGM-91-03

JOB NUMBER

6853-04

SAMPLING DATE

4/11/92

LOCATION

ACTIVITY

START 1000

END 1130

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY 30%

WATER LEVEL / WELL DATA

WELL DEPTH 102 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.55 FT

PROTECTIVE CASING/WELL DIFF.

.55 FT

WATER DEPTH 80.38 FT

30 GAL/VOL

31.5

WELL INTEGRITY: PROT. CASING SECURE

YES NO N/A

RISER ELEVATION

863.56

HEIGHT OF WATER COLUMN 22 FT

150 TOTAL GAL PURGED

WELL LOCKED
PVC WELL CAP

YES NO N/A

GROUNDWATER ELEVATION

783.18

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

2 30 GAL

2 60 GAL

2 90 GAL

2 120 GAL

2 150 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.8

10.3

10.3

10.4

10.3

7.4

7.4

7.5

7.6

7.7

514

515

515

515

515

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

861.1

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2			2086	0326601C
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			2086	0326601C
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		2087	0528101C
CL	TT08	YES	4 DEG C	500 ML POLY		2088	
SO ₄	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		2089	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N ₂	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		2090	0428201C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		2093	0228101C
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: J. [Signature]

RECEIVED BY: Nancy E. [Signature]

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

B PW#2

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID B PW#2

JOB NUMBER

6853-0

SAMPLING DATE

4.8.72

LOCATION ACTIVITY

START 0750

END 0800

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny 50's

WATER LEVEL / WELL DATA

WELL DEPTH

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

FT

PROTECTIVE
CASING/WELL DIFF

FT

WATER DEPTH

FT

GAL/VOL

MA

WELL INTEGRITY:

YES NO N/A

RISER
ELEVATION

HEIGHT OF
WATER COLUMN

FT

TOTAL GAL PURGED

PROT CASING SECURE

CONCRETE COLLAR INTAC

WELL LOCKED

PVC WELL CAP

GROUNDWATER
ELEVATION

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER
2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ GAL

@ GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
COOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐

☐

☐

☐

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PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDEDS#

2" 4" #

MA

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	NO	HNO3 TO pH<2			2056	022851C
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	HNO3 TO pH<2			2056	022851C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY		2057	052815C
CL	TT08	4 DEG C	500 ML POLY		2058	
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY		2059	
TDS	USEPA 160.1	4 DEG C				
TCC	USEPA 415.1	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	HCL, 4 DEG C	(3)40 ML VIAL		2060	022851C
EN/A	UM16	4 DEG C	(2) 1 L AG		2063	022851C
NG	99	4 DEG C	1 L AG		2065	
NAM	UN06	4 DEG C	1 L AG		2066	
DNT	UW25	4 DEG C	1 L AG		2067	
TPH	USEPA 413.1	H2SO4 TO pH<2	1 L GLM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

water from BPW #2 was poured directly from pump into bottles.

SIGNATURE:

Paul G. Smith/AT

RECEIVED BY:

W. Narayana E. Rector

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER PIN 9106C

SITE ID PIN-91-06C

SITE TYPE WELL

SAMPLING DATE 4-29-92

LOCATION ACTIVITY START 0800 END 1000

JOB NUMBER 6853-04

FILE NAME CGW

PROGRAM C

WEATHER Sunny 60°

WATER LEVEL / WELL DATA

WELL DEPTH 205 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.47 FT

PROTECTIVE CASING/WELL DIFF.

13 FT

WATER DEPTH 82.95 FT

99 GAL/VOL (99)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

848.29

HEIGHT OF WATER COLUMN 120.1 FT

495 TOTAL GAL PURGED

GROUNDWATER ELEVATION

765.34

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

8:37 9:04 9:31 9:53 10:25
@ 99 GAL @ 198 GAL @ 297 GAL @ 396 GAL @ 495 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.4	11.5	11.5	11.7	11.8
7.67	7.83	7.73	7.75	7.76
623	623	620	622	627
4				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# 44221
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

846.1

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2			305	032660.6
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			305	032660.6
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		306	052810.6
CL TT08	YES	4 DEG C	500 ML POLY		307	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		308	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um:33	NO	HCL, 4 DEG C	(3)40 ML VIAL		309	042820.6
BN/A UM16	NO	4 DEG C	(2) 1 L AG		312	062810.6
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		314	062810.6
DNT UW26	NO	4 DEG C	1 L AG		315	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: James E. Carter

RECEIVED BY: Paul R. Furst

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN7106D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-91-06D

JOB NUMBER

5853-04

SAMPLING DATE

4/29/92

LOCATION

ACTIVITY

START 0800

END 1100

PROGRAM

C

FILE NAME

CGW

WEATHER

SUNNY

60°

WATER LEVEL / WELL DATA

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.36

PROTECTIVE CASING/WELL DIFF.

-.19

WELL DEPTH 253 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 82.15 FT

132

GAL/VOL

112

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

847.50

GROUNDWATER ELEVATION

765.35

HEIGHT OF WATER COLUMN 170.9 FT

660

TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

8:48 9:21 9:54 10:27 11:10

PURGE VOLUME

2.12 GAL

2.12 GAL

2.12 GAL

2.12 GAL

2.12 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.6

7.37

605

11.9

7.47

619

12.0

7.81

614

12.0

7.67

614

12.5

7.65

625

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS# ABB 2

32" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

845.8

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2				
NA	YES	HNO ₃ TO pH<2				
CO	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
HARD	YES	HNO ₃ TO pH<2				
USEPA 130.2	YES	HNO ₃ TO pH<2				
TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
TT08	YES	4 DEG C	500 ML POLY			
TT08	YES	4 DEG C				
USEPA 310.1	NO	4 DEG C	500 ML POLY			
USEPA 160.1	NO	4 DEG C				
USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
UM16	NO	4 DEG C	(2) 1 L AG			
99	NO	4 DEG C	1 L AG			
UN06	NO	4 DEG C	1 L AG			
UW26	NO	4 DEG C	1 L AG			
USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CP, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE

Gregory R. Bell

RECEIVED BY:

Paul E. Rude

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-91-12C
 LOCATION ACTIVITY START 1400 END 1700

FIELD SAMPLING NUMBER PBN9112C
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4.28.92
 FILE NAME CGW
 WEATHER Sunny, 50s

WATER LEVEL / WELL DATA

WELL DEPTH 136 FT MEASURED ☒ TOP OF WELL ☒ TOP OF CASING ☐
 WATER DEPTH 90.11 FT HISTORICAL ☐
 HEIGHT OF WATER COLUMN 95.89 FT
 8.3 GAL/VOL (83) 4.15 TOTAL GAL PURGED (415)
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☒
 CONCRETE COLLAR INTACT ☒
 WELL LOCKED ☒
 PVC WELL CAP ☒
 PROTECTIVE CASING/WELL DIFF. 2.34 FT PROTECTIVE CASING/WELL DIFF. -0.07 FT
 RISER ELEVATION 854.42
 GROUNDWATER ELEVATION 76.431
 PURGE H2O CONTAINED? ☒ VOC ☐ DNT ☐ NO ☒ PVC ☐ SS
 AMBIENT AIR 0.0 PPM WELL MOUTH 0.6 PPM
 WELL DIAMETER 2 INCH 4 INCH INCH

PURGE DATA

	3:10	3:30	3:50	4:10	4:30	
PURGE VOLUME	83 GAL	1106 GAL	249 GAL	332 GAL	415 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C	10.9	10.7	10.8	10.9	10.9	<input type="checkbox"/> CLEAR
pH, UNITS <input type="checkbox"/> pH PAPER	7.7	7.3	7.6	7.4	7.4	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY umhos/cm	592	593	593	594	592	<input type="checkbox"/> COLORED
PUMP RATE, GPM	4 gpm					<input type="checkbox"/> TURBID
						<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒ ISCO #
 SUBMERSIBLE PUMP ☒ GRINDFOS#
 BAILER ☒ 2" ☐ 4" #
 PVC/SILICON TUBING ☒
 IN-LINE/DISPOSABLE FILTER ☒
 OTHER ☐
 DECON FLUIDS USED ☐ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 GROUND ELEVATION 852.2
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE *[Signature]*
 RECEIVED BY: *[Signature]*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 91112D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4-29-92

SITE ID PBN-91-12D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0800 END 1030

PROGRAM C

WEATHER SUNNY 60's

WATER LEVEL / WELL DATA



TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.30 FT

PROTECTIVE
CASING/WELL DIFF.

-0.19 FT

WELL DEPTH 233 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 89.02 FT

114 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER
ELEVATION 853.27

HEIGHT OF
WATER COLUMN 143.98 FT

570 TOTAL GAL PURGED

GROUNDWATER
ELEVATION 764.27

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.5 PPM

WELL MOUTH 0.7 PPM

WELL
DIAMETER 3 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

0838

0901

0924

0947

1000

@ 11.4 GAL

@ 228 GAL

@ 342 GAL

@ 456 GAL

@ 570 GAL

TEMP, DEG C

11.0

11.0

11.2

11.4

11.4

pH, UNITS ☐ pH PAPER

7.6

7.5

7.4

7.4

7.4

SPECIFIC CONDUCTIVITY umhos/cm

589

588

591

595

595

PUMP RATE, GPM

5 gpm

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

851.2

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM-33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN-89-013

PROJECT: USATHAMA-BAAP

SITE TYPE: WELL

SITE ID: PBN-89-013

JOB NUMBER: 6853-04

SAMPLING DATE: 4/23/92

LOCATION

ACTIVITY: START 1200 END 1500

PROGRAM: C

FILE NAME: CGW

WEATHER: Rain 40's

WATER LEVEL / WELL DATA

WELL DEPTH: 162 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.08 FT

PROTECTIVE
CASING/WELL DIFF.: 2.16 FT

WATER DEPTH: 103.95 FT

52 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER
ELEVATION: 872.33

HEIGHT OF
WATER COLUMN: 58.05 FT

250 TOTAL GAL PURGED

GROUNDWATER
ELEVATION: 708.38

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.2 PPM

WELL
DIAMETER: 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

50 GAL 100 GAL 150 GAL 200 GAL 250 GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.1 10.3 10.3 10.4 10.5
7.6 7.4 7.4 7.4 7.7
307 321 334 327 339
325

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC CONO. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

270.0

NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 760.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBIN 29-011C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBIN-29-011C

JOB NUMBER

6853-04

SAMPLING DATE

4-24-92

LOCATION

ACTIVITY START 1300 END 1530

PROGRAM

C

FILE NAME

CGW

WEATHER

clouds 40's

WATER LEVEL / WELL DATA

WELL DEPTH 201 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.55 FT

PROTECTIVE
CASING/WELL DIFF

0.21 FT

WATER DEPTH 109.56 FT

62

GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER

ELEVATION

873.06

HEIGHT OF
WATER COLUMN 91.44 FT

311

TOTAL GAL PURGED

GROUNDWATER
ELEVATION

768.5

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR

NR PPM

WELL MOUTH NR PPM

WELL
DIAMETER 2 INCH
1 INCH

PURGE DATA

PURGE VOLUME

@ 62 GAL

@ 124 GAL

@ 186 GAL

@ 248 GAL

@ 310 GAL

TEMP, DEG C

PH, UNITS PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.5

7.4

36.7

1235

10.7

7.1

35.7

1355

10.2

7.2

35.9

10.2

7.3

36.1

10.6

7.2

35.7

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
OOCR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

875.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
MG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SC4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3) 40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM33	NO	HCL, 4 DEG C (3) 40 ML VIAL				
SV/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

NR = No Reading - TS measurable
No stone collar

SIGNATURE:

Lytle Tracy / AD

RECEIVED BY:

Paul R. R. R.

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 89 01 D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID PBN-89-01D

JOB NUMBER 6853-04

SAMPLING DATE 4/24/92

LOCATION

PROGRAM C

FILE NAME CSW

ACTIVITY START 1300 END 1600

WEATHER Clouds 40°F

WATER LEVEL / WELL DATA

WELL DEPTH 240 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.55 FT

PROTECTIVE
CASING/WELL DIFF.

-0.42 FT

WATER DEPTH 105.54 FT

107 GAL/VOL 10.7

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER

ELEVATION 874.05

HEIGHT OF

WATER COLUMN 134.46 FT

535 TOTAL GAL PURGED

GROUNDWATER
ELEVATION

768.51

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR NR PPM

WELL MOUTH NR PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

2107 GAL

2214 GAL

2321 GAL

2428 GAL

2535 GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.5

10.3

10.1

10.4

10.3

7.4

7.3

7.1

7.3

7.5

318

313

315

338

320

3.0

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

871.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2			184	1032601C
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			184	1032601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		185	1032601C
CL TT08	YES	4 DEG C	500 ML POLY		186	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		187	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3a2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		188	189
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		193	1032601C
DNT UW26	NO	4 DEG C	1 L AG		194	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

NR = No reading - TE inoperative

SIGNATURE: *[Signature]*

RECEIVED BY: *[Signature]*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PB N 27-02B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

PB N - 27 - 02 B

JOB NUMBER

6853-04

SAMPLING DATE

4/21/92

LOCATION

ACTIVITY

START 0800

END 0930

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy 410's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.65

FT

PROTECTIVE CASING/WELL DIFF.

-0.21

FT

WELL DEPTH

163

FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

132.91

FT

32

GAL/VOL

32

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER ELEVATION

900.25

HEIGHT OF

WATER COLUMN

30.09

FT

1600

TOTAL GAL PURGED

32

GROUNDWATER ELEVATION

767.34

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 2.0 PPM

WELL MOUTH 2.2 PPM

WELL DIAMETER
☒ 2 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

@ 32 GAL

@ 64 GAL

@ 96 GAL

@ 128 GAL

@ 160 GAL

TEMP, DEG C

10.8

10.7

10.8

10.4

10.5

PH, UNITS ☐ pH PAPER

7.1

7.5

7.2

7.4

7.5

SPECIFIC CONDUCTIVITY umhos/cm

552

554

552

552

550

PUMP RATE, GPM

2.35

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ OOCR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

297.6

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2			625	528.00
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		626	
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		627	
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C			628	
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		629	630
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG		631	
<input checked="" type="checkbox"/> NG	99	NC	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG		634	635.00
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG		635	
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

No concrete collar - stone

SIGNATURE:

Lytle T. Fanning

RECEIVED BY:

Paul T. Hunt

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER PBN81902C

PROJECT USATHAMA-SAAP

SITE TYPE WELL

SITE ID PBN-89-02C

JOB NUMBER 6855-04

SAMPLING DATE 4/23/92

LOCATION

ACTIVITY START 1000 END 1200

PROGRAM C

FILE NAME CGW

WEATHER cloudy 40s

WATER LEVEL / WELL DATA

WELL DEPTH 196 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.45 FT

PROTECTIVE CASING/WELL DIFF. -0.33 FT

WATER DEPTH 129.45 FT

55.22 GAL/VOL 55

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 877.04

HEIGHT OF WATER COLUMN 67.55 FT

275 TOTAL GAL PURGED

GROUNDWATER ELEVATION 830.59

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR NR PPM

WELL MOUTH NR PPM

WELL DIAMETER 2 INCH
☐ 1 INCH
☐ 3 INCH

PURGE DATA

PURGE VOLUME

55 GAL 110 GAL 165 GAL 220 GAL 275 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY μ mhos/cm

PUMP RATE, GPM

TEMP, DEG C	PH, UNITS	SPECIFIC CONDUCTIVITY μ mhos/cm	PUMP RATE, GPM
<u>9.9</u>	<u>7.5</u>	<u>338</u>	<u>3.0</u>
<u>10.4</u>	<u>7.4</u>	<u>536</u>	<u>3.0</u>
<u>10.3</u>	<u>7.3</u>	<u>540</u>	<u>3.0</u>
<u>10.5</u>	<u>7.4</u>	<u>540</u>	<u>3.0</u>
<u>10.5</u>	<u>7.2</u>	<u>537</u>	<u>3.0</u>

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BATLOR
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GROUND FOS# ✓
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

874.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	SS16	HNO3 TO pH<2				
NA	SS16	HNO3 TO pH<2				
CD	SS16	HNO3 TO pH<2				
CR	SS16	HNO3 TO pH<2				
HG	SB03	HNO3 TO pH<2				
PB	SD24	HNO3 TO pH<2				
NI	SS16	HNO3 TO pH<2				
BA	SS16	HNO3 TO pH<2				
HARD	USEPA 130.2	HNO3 TO pH<2				
NI	TF10	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	USEPA 816.1	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AG			
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UW26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

NR = No Reading - TE inoperable

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 891038

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-038

JOB NUMBER

6853-C4

SAMPLING DATE

4/25/92

LOCATION

ACTIVITY

START 0800

END

1000

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy, 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.50 FT

PROTECTIVE CASING/WELL DIFF.

-0.03 FT

WELL DEPTH 128 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 79.43 FT

42 GAL/VOL 42

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION
GROUNDWATER ELEVATION

847.08

767.65

HEIGHT OF WATER COLUMN 48.57 FT

210-200 TOTAL GAL PURGED

PURGE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.4 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME 940 AM

@ 42 GAL @ 100 GAL @ 126 GAL @ 168 GAL @ 210 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.2	10.4	10.1	10.3	10.5
7.6	7.4	7.4	7.4	7.3
410	411	606	606	603
3.3				

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

844.7

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	649		0228101C
CL TT08	YES	4 DEG C	500 ML POLY	650		
SO4 TT08	YES	4 DEG C	500 ML POLY	651		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	652		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL	653	654	0228101C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	655		
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG	657		0228101C
DNT UW26	NO	4 DEG C	1 L AG	658		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FBN31705C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID FBN-187-03C

JOB NUMBER 6853-04

SAMPLING DATE 4-25-92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY START 1030 END 1300

WEATHER Cloudy 40s

WATER LEVEL / WELL DATA

WELL DEPTH 165 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.60 FT

PROTECTIVE CASING/WELL DIFF. -0.15 FT

WATER DEPTH 78.51 FT

48

GAL/VOL 18

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 846.87

HEIGHT OF WATER COLUMN 84.49 FT

3417 TOTAL GAL PURGED

stone

GROUNDWATER ELEVATION 768.36

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.6 PPM

WELL DIAMETER 2 INCH
3 INCH
INCH

PURGE DATA

PURGE VOLUME

2 68 GAL

2 136 GAL

2 204 GAL

2 272 GAL

2 340 GAL

TEMP, DEG C

9.8

10.0

9.7

9.6

9.9

pH, UNITS ☐ pH PAPER

7.2

7.2

7.2

7.2

7.2

SPECIFIC CONDUCTIVITY umhos/cm

649

659

667

667

667

PUMP RATE, GPM

4.6

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS# 2

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

844.1

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			661	10528101C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		662	
CL TT08	YES	4 DEG C	500 ML POLY		663	
SO4 TT08	YES	4 DEG C			664	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		665	
TDS USEPA 160.1	NO	4 DEG C			666	
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL		667	
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		668	
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		669	
BN/A UM16	NO	4 DEG C	(2) 1 L AG		670	0428701C
NG 99	NO	4 DEG C	1 L AG		671	
NAM UN06	NO	4 DEG C	1 L AG		672	022801C
DNT UW26	NO	4 DEG C	1 L AG		673	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM		674	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 89046

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE

4/12/92

SITE ID PBN-89-046

JOB NUMBER 6853-04

FILE NAME

CGW

LOCATION

ACTIVITY START 1400 END 1530

PROGRAM C

WEATHER

Sunny, windy, 40

WATER LEVEL / WELL DATA

WELL DEPTH 146 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.49 FT

PROTECTIVE CASING/WELL DIFF.

- .26 FT

WATER DEPTH 93.07 FT

HEIGHT OF WATER COLUMN 52.93 FT

50

GAL/VOL

50

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

RISER ELEVATION

357.23

GROUNDWATER ELEVATION

766.16

PURGE H₂O CONTAINED?
☐ VOC ☒ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.1 PPM

WELL MOUTH 0.1 PPM

WELL DIAMETER ☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 50 GAL

@ 100 GAL

@ 150 GAL

@ 200 GAL

@ 300 GAL

TEMP, DEG C

pH, UNITS ☒ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.2

6.2

734

4 gpm

10.9

6.0

740

11.7

6.0

742

10.7

6.0

742

10.5

6.0

740

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

856.9

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H2SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H2SO ₄ TO pH<2	500 ML POLY			
VOC Vm33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *AKS/LLT*

RECEIVED BY: *Nancy E. Ro*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

F I E M 3 8 9 0 5

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 1/14/92

SITE ID F I E M - 3 8 9 - 0 5

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1330 END 1500

PROGRAM C

WEATHER CLOUDY 30%

WATER LEVEL / WELL DATA

WELL DEPTH 99 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

300 FT

PROTECTIVE CASING/WELL DIFF. - .18 FT

WATER DEPTH 87.46 FT

HEIGHT OF WATER COLUMN 11.54 FT

19 GAL/VOL
95 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 855.52

GROUNDWATER ELEVATION 768.12

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.2 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 19 GAL

@ 38 GAL

@ 57 GAL

@ 74 GAL

@ 95 GAL

TEMP, DEG C

PH, UNITS ☒ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.1

6.5

789

3.2 gpm

10.8

6.5

786

10.3

6.5

785

10.1

6.5

784

10.0

6.5

780

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GROUNDLOGS#
2" 4" #
IN-LINE/DISPOSABLE FILTER
OTHER

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION
852.3

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CO	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
MG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		673	052501C
CL	TT08	YES	4 DEG C	500 ML POLY		674	
SC4	TT08	YES	4 DEG C			675	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		676	
DS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
DOC	um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		677	052501C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		678	
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG		682	052501C
DNT	UW26	NO	4 DEG C	1 L AG		683	
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Paul C. St. L. T.

RECEIVED BY: Nancy E. Rott

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 89-06

PAGE 1 OF 1

1/25/92

PROJECT USATHAMA-SAAP

SITE TYPE

WELL

SITE ID PBM-89-06

JOB NUMBER

6853-04

SAMPLING DATE

1/15/92

LOCATION

START 1600 END 1500

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 0600 END 0530

WEATHER

Clear 40's F

WATER LEVEL / WELL DATA

WELL DEPTH 138 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.55 FT

PROTECTIVE CASING/WELL DIFF.

0.23 FT

WATER DEPTH 117.85 FT

33 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A

RISER

ELEVATION 236.37

HEIGHT OF WATER COLUMN

165

TOTAL GAL PURGED

165

GROUNDWATER ELEVATION

PURGE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR NR PPM

WELL MOUTH NR PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME	@ 33 GAL	@ 66 GAL	@ 99 GAL	@ 132 GAL	@ 165 GAL
TEMP, DEG C	10.1	10.1	10.3	10.3	10.3
PH, UNITS <input type="checkbox"/> PH PAPER	7.3	7.2	7.2	7.2	7.2
SPECIFIC CONDUCTIVITY umhos/cm	369	377	373	379	373
PUMP RATE, GPM	3.6				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
<input checked="" type="checkbox"/> PERISTALTIC PUMP	ISCO #	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE	233.7
<input checked="" type="checkbox"/> SUBMERSIBLE PUMP	GRUNDOS#	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED	
<input checked="" type="checkbox"/> BAILER	32" 4" #	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER	
<input checked="" type="checkbox"/> PVC/SILICON TUBING				
<input type="checkbox"/> IN-LINE/DISPOSABLE FILTER				
<input type="checkbox"/> OTHER				
		NUMBER OF FILTERS USED		

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	SS16	HNO3 TO pH<2				
NA	SS16	HNO3 TO pH<2				
CD	SS16	HNO3 TO pH<2				
CR	SS16	HNO3 TO pH<2				
HG	SB03	HNO3 TO pH<2				
PB	SD24	HNO3 TO pH<2				
NI	SS16	HNO3 TO pH<2				
BA	SS16	HNO3 TO pH<2				
HARD	USEPA 130.2	HNO3 TO pH<2				
NIT	TF10	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	UM33	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AG			
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UN26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

NR - No Reading - TE Inoperative
No concrete collar -> stone

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 39-07

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-39-07

JOB NUMBER

6853-04

SAMPLING DATE

4-23-92

LOCATION

ACTIVITY

START 1400

END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy, 48°

WATER LEVEL / WELL DATA

WELL DEPTH

95.5 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.52 FT

PROTECTIVE CASING/WELL DIFF.

1.4 FT

WATER DEPTH

83.56 FT

22 GAL/VOL

21.5

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

RISER

ELEVATION

849.36

GROUNDWATER

ELEVATION

765.8

HEIGHT OF

WATER COLUMN

11.44 FT

108

TOTAL GAL PURGED

108

PURGE H2O CONTAINED?

☐ VOC ☐ DNT ☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR

0 PPM

WELL MOUTH

0 PPM

WELL DIAMETER ☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

22 GAL

44 GAL

66 GAL

88 GAL

108 GAL

TEMP, DEG C

10.4

10.1

10.2

10.0

10.0

PH, UNITS

☐ PH PAPER

7.6

7.5

7.6

7.6

7.6

SPECIFIC CONDUCTIVITY umhos/cm

588

581

514

514

516

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ OOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

846.6

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)

SIGNATURE:

RECEIVED BY:

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 89-08

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-89-08

JOB NUMBER

6853-04

SAMPLING DATE

4.12.92

LOCATION

ACTIVITY

START 1030

END 1115

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, windy, 30° S

WATER LEVEL / WELL DATA

WELL DEPTH 128 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.10 FT

PROTECTIVE CASING/WELL DIFF.

- .17 FT

WATER DEPTH 122.46 FT

10

GAL/VOL

10

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

888.56

GROUNDWATER ELEVATION

766.10

HEIGHT OF WATER COLUMN

5.54 FT

50

TOTAL GAL PURGED

50

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.1 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 10 GAL

@ 20 GAL

@ 30 GAL

@ 40 GAL

@ 50 GAL

TEMP, DEG C

pH, UNITS ☒ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.1

12.1

11.1

11.2

11.1

6.0

6.0

6.0

6.0

6.0

620

620

620

623

623

3 gpm

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GRUNDFOS#
2" 4" #

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

885.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
USEPA 130.2	YES	HNO3 TO pH<2				
TF10	YES	H2SO4 TO pH<2	500 ML POLY			
TT08	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL			
UM33	NO					
BN/A	NO	4 DEG C	(2) 1 L AG			
99	NO	4 DEG C	1 L AG			
UN06	NO	4 DEG C	1 L AG			
UN26	NO	4 DEG C	1 L AG			
USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Paul C. Smith, L.L.T.

RECEIVED BY: Nancy E. Rhea

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM8909

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-89-091

JOB NUMBER

6853-04

SAMPLING DATE 4/22/92

LOCATION

ACTIVITY

START

1200

END 1300

PROGRAM

C

FILE NAME

CGW

WEATHER

OVERCAST

40%

WATER LEVEL / WELL DATA

WELL DEPTH

126 FT

MEASURED

HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

282 FT

PROTECTIVE
CASING/WELL DIFF.

.20 FT

WATER DEPTH

111.25 FT

26 GAL/VOL

36

WELL INTEGRITY:

YES NO N/A

RISER
ELEVATION

833.48

HEIGHT OF
WATER COLUMN

14.75 FT

130

TOTAL GAL PURGED

PROT. CASING SECURE

CONCRETE COLLAR INTACT

GROUNDWATER
ELEVATION

772.23

PURGE H₂O CONTAINED?

VOC

DNT

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

1.3 PPM

WELL MOUTH

1.2 PPM

WELL
DIAMETER

2 INCH

1 INCH

PURGE DATA

PURGE VOLUME

12:35

26 GAL

12:44

52 GAL

12:53

78 GAL

13:02

104 GAL

13:11

180 GAL

TEMP, DEG C

10.5

10.7

10.8

10.6

10.6

pH, UNITS

pH PAPER

7.71

7.44

7.63

7.63

7.67

SPECIFIC CONDUCTIVITY umhos/cm

431

410

614

609

611

PUMP RATE, GPM

3

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS# ABB#2

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

880.6

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		721	ASB0101C
CL TT08	YES	4 DEG C	500 ML POLY		722	
SO ₄ TT08	YES	4 DEG C			723	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		724	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		725	443701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		726	
NG 99	NO	4 DEG C	1 L AG		727	
NAM UN06	NO	4 DEG C	1 L AG		730	023501C
DNT UW26	NO	4 DEG C	1 L AG		731	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Laura E. Carter

RECEIVED BY: Ted E. Ruster

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBM-89-10A
 LOCATION ACTIVITY START 1000 END 1100

FIELD SAMPLING NUMBER PBM-89-10A
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4.10.92
 FILE NAME CGW
 WEATHER cloudy 40's

WATER LEVEL / WELL DATA

WELL DEPTH 131 FT MEASURED TOP OF WELL 2.73 FT PROTECTIVE CASING/WELL DIFF. -1.18 FT
 WATER DEPTH 119.06 FT HISTORICAL TOP OF CASING
 HEIGHT OF WATER COLUMN 11.94 FT
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 PVC WELL CAP
 RISER ELEVATION 889.65
 GROUNDWATER ELEVATION 770.59
 PURGE H2O CONTAINED? VOC DNT NO WELL MATERIAL PVC SS AMBIENT AIR 1.0 PPM WELL MOUTH 1.3 PPM
 WELL DIAMETER 2 INCH 4 INCH 1 INCH

PURGE DATA

PURGE VOLUME	2 19 GAL	2 38 GAL	2 57 GAL	2 76 GAL	2 95 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C	10.9	10.9	10.9	11.1	11.0	<input checked="" type="checkbox"/> CLEAR
PH, UNITS	6.7	6.7	6.7	6.5	6.7	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY umhos/cm	604	458	458	719	672	<input type="checkbox"/> COLORED
PUMP RATE, GPM	3.5					<input type="checkbox"/> TURBID
						<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING EQUIPMENT ID DECON FLUIDS USED WATER LEVEL EQUIP. USED GROUND ELEVATION
☒ PERISTALTIC PUMP ISCO # ☒ POTABLE WATER ☒ ELECTRIC COND. PROBE 886.8
☒ SUBMERSIBLE PUMP GRUNDFOS # ☐ LIQUINOX ☐ FLOAT ACTIVATED
☒ BAILER 2" 4" # ☐ STEAM CLEANING ☐ PRESSURE TRANSDUCER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

OTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

*pH probe not working - used pH paper

SIGNATURE: Paul E. S. L.T.

RECEIVED BY: Nancy E. Rofa

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 89-108

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-108

JOB NUMBER

6853-04

SAMPLING DATE

4-26-92

LOCATION

ACTIVITY

START

1500 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY
HGS

WATER LEVEL / WELL DATA

WELL DEPTH

170 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.62 FT

PROTECTIVE CASING/WELL DIFF.

-20 FT

WATER DEPTH

121.25 FT

47 GAL/VOL
235 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

871.81

GROUNDWATER ELEVATION

HEIGHT OF

WATER COLUMN 40.75 FT

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.6 PPM

WELL DIAMETER 2 INCH
3/4 INCH

PURGE DATA

PURGE VOLUME

@ 47 GAL

@ 94 GAL

@ 131 GAL

@ 158 GAL

@ 235 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.9
7.5
573
2.2 gpm

10.9
7.5
569

11.0
7.3
567

10.9
7.4
571

10.8
7.2
565

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

387.1

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 89-110C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-110C

JOB NUMBER

6853-04

SAMPLING DATE

4-26-92

LOCATION

ACTIVITY START 1500 END 1700

PROGRAM

C

FILE NAME

CGW

WEATHER

OVERCAST
NOS

WATER LEVEL / WELL DATA

☒

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.10 FT

PROTECTIVE
CASING/WELL DIFF.

-0.05 FT

WELL DEPTH 144.5 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 116.13 FT

63

GAL/VOL

1.5

HEIGHT OF
WATER COLUMN 75.31 FT

315

TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES

NO

N/A

RISER
ELEVATION

827.00

GROUNDWATER
ELEVATION

770.87

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.3 PPM

WELL
DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 63 GAL

@ 129 GAL

@ 192 GAL

@ 258 GAL

@ 319 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.1

11.3

11.1

11.1

11.2

7.5

7.3

7.3

7.3

7.2

563

578

561

562

562

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

724.7

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2			239	032600C
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			239	032600C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		240	052510C
CL TT08	YES	4 DEG C	500 ML POLY		241	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		242	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		243	042520C
3N/A UM16	NO	4 DEG C	(2) 1 L AG		246	022510C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		248	022510C
ONT UW26	NO	4 DEG C	1 L AG		249	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

Put a PVC cap on the well.

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMSEP

PEN 819 110 D

PROJECT USATAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 7-29-92

SITE ID PEN-819-110 D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1100 END 1300

PROGRAM C

WEATHER SUNNY

WATER LEVEL / WELL DATA

WELL DEPTH 240 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

3.50 FT

PROTECTIVE
CASING/WELL DIFF. -0.26 FT

WATER DEPTH 112.92 FT

85 GAL/VOL 85.2

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER
ELEVATION 834.25

HEIGHT OF
WATER COLUMN FT

426 TOTAL GAL PURGED

GROUNDWATER
ELEVATION 770.93

PURGE H₂O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME	285 GAL	170 GAL	255 GAL	341 GAL	426 GAL
TEMP, DEG C	12.7	12.2	12.4	12.4	12.2
pH, UNITS	7.5	7.4	7.5	7.6	7.6
SPECIFIC CONDUCTIVITY umhos/cm	750	251	548	544	548
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

830.9

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 413.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBM-89-111
 LOCATION START 1330 END 1500

FIELD SAMPLING NUMBER PBM89111
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4/22/92
 FILE NAME CGW
 WEATHER OVERCAST
 40%

WATER LEVEL / WELL DATA

WELL DEPTH 114 FT
 WATER DEPTH 110.44 FT
 HEIGHT OF WATER COLUMN 3.6 FT
 MEASURED
 HISTORICAL
 5 GAL/VOL
 25 TOTAL GAL PURGED
 TOP OF WELL
 TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.9 FT
 PROTECTIVE CASING/WELL DIFF. .18 FT
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 PVC WELL CAP
 RISER ELEVATION 824.41
 GROUNDWATER ELEVATION 773.97
 PURGE H₂O CONTAINED? VOC DNT NO
 WELL MATERIAL PVC SS
 AMBIENT AIR D.O. PPM
 WELL MOUTH D.O. PPM
 WELL DIAMETER 2 INCH
 4 INCH
 1 INCH

PURGE DATA

PURGE VOLUME	@ 5 GAL	@ 10 GAL	@ 15 GAL	@ 20 GAL	@ 25 GAL
TEMP, DEG C	10.1	10.1	10.3	10.3	10.5
PH, UNITS	7.65	7.58	7.57	7.56	7.57
SPECIFIC CONDUCTIVITY umhos/cm	578	577	590	576	581
PUMP RATE, GPM	2				

SAMPLE OBSERVATIONS
 CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 EQUIPMENT ID
 ISCO #
 GRUNDFOS # A33-2
 2" 4" #
 DECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 GROUND ELEVATION 381.6
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Laura S. Carter / L-P
 RECEIVED BY: Rod P. Pustoff

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN-89-12A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-89-12A

JOB NUMBER

6853-04

SAMPLING DATE

4/29/92

LOCATION

ACTIVITY

START 0800

END 0900

PROGRAM

C

FILE NAME

CGW

WEATHER

SUNNY 50s

WATER LEVEL / WELL DATA

WELL DEPTH

104 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

4.308 FT

PROTECTIVE CASING/WELL DIFF.

0.11 PCS
0.1184 FT

WATER DEPTH

91.27 FT

22

GAL/VOL

21.5

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

855.6

HEIGHT OF

WATER COLUMN

12.73 FT

110

TOTAL GAL PURGED

100

GROUNDWATER ELEVATION

764.39

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.5 PPM

WELL MOUTH 0.5 PPM

WELL DIAMETER
☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

22 GAL

44 GAL

66 GAL

88 GAL

110 GAL

TEMP, DEG C

pH, UNITS

☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.0

10.8

10.7

10.8

10.8

7.5

7.6

7.5

7.5

7.5

592

592

592

592

592

4.0

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

POTABLE WATER
LIQUINOX
STEAM CLEANING

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

850.6

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS15	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Paul C. Smith/aka

RECEIVED BY: Paul C. Smith

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID FBM-85-01

JOB NUMBER 6853-04

SAMPLING DATE 4.25.92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY START 1300 END 1500

WEATHER clear, 40°F

WATER LEVEL / WELL DATA

WELL DEPTH 118 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 3.55 FT

PROTECTIVE CASING/WELL DIFF. -0.60 FT

WATER DEPTH 93.55 FT

36 GAL/VOL 36

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

RISER ELEVATION 862.47

HEIGHT OF WATER COLUMN 24.45 FT

180 TOTAL GAL PURGED

GROUNDWATER ELEVATION 768.92

PURGE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.4 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 36 GAL

@ 72 GAL

@ 108 GAL

@ 144 GAL

@ 180 GAL

TEMP, DEG C

10.1

10.1

10.2

10.3

10.3

PH, UNITS ☐ PH PAPER

7.4

7.2

7.2

7.2

7.1

SPECIFIC CONDUCTIVITY umhos/cm

662

652

652

655

657

PUMP RATE, GPM

4.0

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

-857.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	USEPA 8160	NO	HCL, 4 DEG C	(3)40 ML VIAL			
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Super Tracey / AA*

RECEIVED BY: *Red P. K...*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 2502

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-85-02

JOB NUMBER

6853-04

SAMPLING DATE

4/14/92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 1130

END 1230

WEATHER

cloudy 30s

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

336

FT

PROTECTIVE

-33

FT

WELL DEPTH

101

FT

☒ MEASURED

☐ HISTORICAL

WATER DEPTH

80.74

FT

33

GAL/VOL

33.2

WELL INTEGRITY:

YES

NO

N/A

RISE

ELEVATION

249.16

HEIGHT OF

20.26

FT

165

TOTAL GAL PURGED

165

WELL INTEGRITY:

YES

NO

N/A

GROUNDWATER

ELEVATION

768.42

WATER COLUMN

20.26

FT

165

TOTAL GAL PURGED

165

WELL INTEGRITY:

YES

NO

N/A

GROUNDWATER

ELEVATION

768.42

PURGE H2O CONTAINED?

☒ VOC ☐ DNT ☐ NO

WELL MATERIAL

AMBIENT AIR 0.0 PPM

WELL

DIAMETER

2 INCH

PURGE DATA

PURGE VOLUME

@ 33 GAL

@ 66 GAL

@ 99 GAL

@ 132 GAL

@ 165 GAL

TEMP, DEG C

10.3

10.4

10.5

10.6

10.5

PH, UNITS

☒ PH PAPER

6.7

6.5

6.3

6.5

6.5

SPECIFIC CONDUCTIVITY umhos/cm

493

699

699

700

701

PUMP RATE, GPM

4 gpm

4 gpm

4 gpm

4 gpm

4 gpm

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP

ISCO #

☒ POTABLE WATER

ELECTRIC COND. PROBE

~344.5

SUBMERSIBLE PUMP

GRINDFOS#

☐ LIQUINOX

FLOAT ACTIVATED

~344.5

BAILER

2" 4" #

☐ STEAM CLEANING

PRESSURE TRANSDUCER

~344.5

PVC/SILICON TUBING

2" 4" #

☐

☐

~344.5

IN-LINE/DISPOSABLE FILTER

2" 4" #

☐

☐

~344.5

OTHER

2" 4" #

☐

☐

~344.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
RA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	USEPA 816.1	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM33	NO	4 DEG C	(2) 1 L AG			
NG	UM16	NO	4 DEG C	1 L AG			
NAM	UM06	NO	4 DEG C	1 L AG			
DNT	UM26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

OTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *R. L. C. Smith*

RECEIVED BY: *Wm. E. R. R.*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 8503

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-85-03

JOB NUMBER

6853-04

SAMPLING DATE

4/14/92

LOCATION

START 900 END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 148 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

3.45 FT

PROTECTIVE
CASING/WELL DIFF.

-0.42 FT

WATER DEPTH 117.44 FT

40 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER
ELEVATION

825.78

HEIGHT OF
WATER COLUMN 30.56 FT

200 TOTAL GAL PURGED

GROUNDWATER
ELEVATION

768.54

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

40 GAL

80 GAL

120 GAL

160 GAL

200 GAL

TEMP, DEG C

PH, UNITS PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.0

6.7

772

772

10.5

6.5

772

772

10.6

6.6

772

772

11.3

6.5

770

770

11.0

6.5

766

766

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

[X] PERISTALTIC PUMP
[X] SUBMERSIBLE PUMP
[X] BAILER
[X] PVC/SILICON TUBING
[X] IN-LINE/DISPOSABLE FILTER
[] OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

~881.4

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			421	0528012
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		422	
CL TT08	YES	4 DEG C	500 ML POLY		423	
SO4 TT08	YES	4 DEG C			424	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM33	NO	HCL, 4 DEG C (3)40 ML VIAL			425 426 427	0528012
BN/A UM16	NO	4 DEG C (2) 1 L AG			428 429	0528012
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG			430	0528012
DNT UW26	NO	4 DEG C 1 L AG			431	
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

PURGE WATER CONTAMINATED FOR
VOC's

SIGNATURE: P. G. S. T. L. / L. T.

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM85104

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE

4.14.92

SITE ID PBM-85-04

JOB NUMBER

6853-04

FILE NAME

CGW

LOCATION ACTIVITY

START 0730 END 0830

PROGRAM

C

WEATHER

cloudy, 30s

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

3.46

PROTECTIVE

-1.58

WELL DEPTH 124 FT

☒ MEASURED

☐

TOP OF CASING

CASING STICK-UP (FROM GROUND)

3.46

CASING/WELL DIFF.

-1.58

WATER DEPTH 98.90 FT

☒ HISTORICAL

☐

37 GAL/VOL

36.4

WELL INTEGRITY:

YES NO N/A

866.65

HEIGHT OF WATER COLUMN 25.1 FT

185

TOTAL GAL PURGED

1.3

WELL LOCKED

YES NO N/A

767.75

PURGE H2O CONTAINED?

☒ VOC

☐ DNT

☐ NO

WELL MATERIAL

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER

☒ PVC

☐ SS

WELL MATERIAL

WELL DIAMETER

2 INCH

4 INCH

INCH

PURGE DATA

PURGE VOLUME

237 GAL

274 GAL

111 GAL

140 GAL

185 GAL

EMP, DEG C

☒ PH PAPER

10.1

10.2

10.7

10.3

10.4

H, UNITS

☒ PH PAPER

7.0

6.5

7.0

6.5

6.5

SPECIFIC CONDUCTIVITY umhos/cm

730

734

734

734

732

PUMP RATE, GPM

3.7

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

URGING SAMPLING

PERISTALTIC PUMP

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

SUBMERSIBLE PUMP

ISCO #

☒ POTABLE WATER

ELECTRIC COND. PROBE

-362.0

BAILER

GRINDFOS#

☐ LIQUINOX

FLOAT ACTIVATED

PVC/SILICON TUBING

2" 4" #

☐ STEAM CLEANING

PRESSURE TRANSDUCER

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

BOTTLE LOT #

PP METALS (SPECIFIED BELOW)

YES

HNO3 TO PH<2

1 L. POLY

TAL METALS (SPECIFIED BELOW)

YES

HNO3 TO PH<2

CA

SS16

YES

HNO3 TO PH<2

NA

SS16

YES

HNO3 TO PH<2

CD

SS16

YES

HNO3 TO PH<2

CR

SS16

YES

HNO3 TO PH<2

HG

S803

YES

HNO3 TO PH<2

PB

SD24

YES

HNO3 TO PH<2

NI

SS16

YES

HNO3 TO PH<2

BA

SS16

YES

HNO3 TO PH<2

HARD

USEPA 130.2

YES

HNO3 TO PH<2

NIT

TF10

YES

H2SO4 TO PH<2

500 ML POLY

CL

TT08

YES

4 DEG C

500 ML POLY

SO4

TT08

YES

4 DEG C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

TDS

USEPA 160.1

NO

4 DEG C

TOC

USEPA 415.1

NO

H2SO4 TO PH<2

(3)40 ML VIAL

NH3N2

USEPA 350.2

NO

H2SO4 TO PH<2

500 ML POLY

VOC

Um33

NO

HCL, 4 DEG C

(3)40 ML VIAL

EN/A

UM16

NO

4 DEG C

(2) 1 L AG

NG

99

NO

4 DEG C

1 L AG

NAH

UN06

NO

4 DEG C

1 L AG

DNT

UW26

NO

4 DEG C

1 L AG

TPH

USEPA 418.1

NO

H2SO4 TO PH<2

1 L GWM

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: RICS/LLT

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER PBM 2505

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID PBM-25-05

JOB NUMBER 6853-04

SAMPLING DATE 4.12.92

LOCATION ACTIVITY START 1630 END 1715

PROGRAM C

FILE NAME CGW

WEATHER Sunny, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 107 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL PROTECTIVE CASING STICK-UP (FROM GROUND) 3.18 FT

PROTECTIVE CASING/WELL DIFF. -7.76 FT

WATER DEPTH 96.87 FT

17 GAL/VOL

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

RISER ELEVATION 865.88

HEIGHT OF WATER COLUMN 10.13 FT

85 TOTAL GAL PURGED

GROUNDWATER ELEVATION 767.01

PURGE H2O CONTAINED? ☒ VOC ☐ DNT ☐ NO

EXC. MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER ☒ 4 INCH

PURGE DATA

PURGE VOLUME	@ 17 GAL	@ 34 GAL	@ 51 GAL	@ 68 GAL	@ 85 GAL
TEMP, DEG C	<u>10.3</u>	<u>10.3</u>	<u>10.3</u>	<u>10.5</u>	<u>10.2</u>
PH, UNITS <input checked="" type="checkbox"/> PH PAPER	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>
SPECIFIC CONDUCTIVITY umhos/cm	<u>754</u>	<u>768</u>	<u>775</u>	<u>774</u>	<u>778</u>
PUMP RATE, GPM	<u>3.7 gpm</u>				

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒
SUBMERSIBLE PUMP ☐
BAILER ☐
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☐
OTHER ☐

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" ☒ 4" ☐

RECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION -859

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<u>445</u>		<u>0529101C</u>
CL TT08	YES	4 DEG C	500 ML POLY	<u>446</u>		
SO4 TT08	YES	4 DEG C		<u>447</u>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<u>448</u>		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL	<u>449</u>	<u>450</u>	<u>451</u>
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG	<u>454</u>		<u>0229101C</u>
DNT UW26	NO	4 DEG C	1 L AG	<u>455</u>		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CK,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATUR ALLISON L.T

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM2506

PROJECT USATHAMA-SAAP

SITE TYPE WELL

SITE ID PBM-85-06

JOB NUMBER 6853-04

SAMPLING DATE 4.14.92

LOCATION

ACTIVITY START 1130 END 1230

PROGRAM C

FILE NAME CGW

WEATHER Cloudy 30.

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.1 FT

PROTECTIVE CASING/WELL DIFF.

3.5 FT

WELL DEPTH 97 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 82.90 FT

30 GAL/VOL

(27)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

848.12

HEIGHT OF WATER COLUMN 14.1 FT

150 TOTAL GAL PURGED

(136)

GROUNDWATER ELEVATION

765.22

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR - PPM

WELL MOUTH - PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME	a 30 GAL	a 60 GAL	a 90 GAL	a 120 GAL	a 150 GAL
TEMP, DEG C	9.9	10.3	10.3	10.3	10.3
pH, UNITS <input type="checkbox"/> pH PAPER	7.37	7.53	7.6	7.5	7.6
SPECIFIC CONDUCTIVITY umhos/cm	474	483	483	483	485
PUMP RATE, GPM	3.0	3.0	3.0	3.0	3.0

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING	SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE	~843.5
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BAILER	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PVC/SILICON TUBING			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IN-LINE/DISPOSABLE FILTER			
<input type="checkbox"/>	<input type="checkbox"/>	OTHER			
			NUMBER OF FILTERS USED		

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VCC Um3d	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GUM				

OTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MC,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*
RECEIVED BY: *Nancy E. Rofa*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 8501A

PROJECT USATHAMA-SAAP

SITE TYPE

WELL

SITE ID PBN-85-01A

JOB NUMBER

6853-04

SAMPLING DATE

4/23/92

LOCATION

ACTIVITY

START 1200/1300 END 200/1430

PROGRAM

C

FILE NAME

CGW

WEATHER

Clear 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.55 FT

PROTECTIVE CASING/WELL DIFF

0.24 FT

WELL DEPTH 121 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 125.89 FT

25 GAL/VOL 25
125 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

874.56

HEIGHT OF WATER COLUMN 15.11 FT

GROUNDWATER ELEVATION

768.67

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR NR PPM

PPM

WELL MOUTH NR PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 25 GAL

@ 50 GAL

@ 75 GAL

@ 100 GAL

@ 125 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.1

7.3

342

3.2

10.2

7.3

346

3.2

10.3

7.3

348

3.2

10.5

7.4

348

3.2

10.5

7.3

349

3.2

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLGRED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

~869.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC Um33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
TAL METALS (AL, SB, AS, BA, RE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)

NR = No reading - TE inoperative.
No concrete collar

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-SAAP
SITE ID PBN-35-02A
LOCATION ACTIVITY START 0800 END 0900

SITE TYPE WELL
JOB NUMBER 6853-04
PROGRAM C

SAMPLING DATE 4/23/92
FILE NAME CGW
WEATHER cloudy 40°

WATER LEVEL / WELL DATA

WELL DEPTH 137 FT
WATER DEPTH 130.15 FT
HEIGHT OF WATER COLUMN 6.85 FT
MEASURED
HISTORICAL
TOP OF WELL
TOP OF CASING
PROTECTIVE CASING STICK-UP (FROM GROUND) 2.95 FT
PROTECTIVE CASING/WELL DIFF. 0.37 FT
WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP
RISER ELEVATION 878.79
GROUNDWATER ELEVATION 768.64
PURGE H₂O CONTAINED? VOC DNT NO
WELL MATERIAL PVC SS
AMBIENT AIR 0.2 PPM
WELL MOUTH 0.2 PPM
WELL DIAMETER 2 INCH 4 INCH

PURGE DATA

PURGE VOLUME	@ 10 GAL	@ 20 GAL	@ 30 GAL	@ 40 GAL	@ 50 GAL
TEMP, DEG C	10.0	10.3	10.5	10.1	10.5
PH, UNITS	7.3	7.6	7.5	7.6	7.3
SPECIFIC CONDUCTIVITY umhos/cm	502	541	585	523	588
PUMP RATE, GPM	3.2				

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER
EQUIPMENT ID
ISCO #
GRUNDFOS #
DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING
WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER
GROUND ELEVATION ~894.2
NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				
NIT	TF10	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO ₄	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N ₂	USEPA 350.2	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	um33	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AG			
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UW26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H ₂ SO ₄ TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]
RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN-8503A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-85-03A

JOB NUMBER

6853-04

SAMPLING DATE

4-25-92

LOCATION

ACTIVITY

START 0830

END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy, 40's F

WATER LEVEL / WELL DATA

WELL DEPTH 94 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.15 FT

PROTECTIVE CASING/WELL DIFF.

20.10 FT

WATER DEPTH 82.89 FT

19 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

351.22

HEIGHT OF WATER COLUMN 82.89 FT

075 TOTAL GAL PURGED

GROUNDWATER ELEVATION

768.33

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.2 PPM

WELL DIAMETER 2 INCH
2 1/2 INCH
INCH

PURGE DATA

PURGE VOLUME 10.10 A

@ 19 GAL @ 38 GAL @ 57 GAL @ 76 GAL @ 95 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.2	10.5	10.6	10.6	10.4
7.4	7.4	7.4	7.3	7.4
545	562	565	558	560
2.5				

SAMPLE OBSERVATIONS

☒ CLEAR
☒ CLOUDY slightly
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

~846.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		613	10528101C
CL TT08	YES	4 DEG C	500 ML POLY		614	
SO4 TT08	YES	4 DEG C			615	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		616	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		617	0428701C
PAH/A UM16	NO	4 DEG C	(2) 1 L AG			
99	NO	4 DEG C	1 L AG			
UN06	NO	4 DEG C	1 L AG		622	10228101C
UN26	NO	4 DEG C	1 L AG		623	
USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

ETALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

ETALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

ear after 5 volumes

SIGNATURE: *Steve V...*

RECEIVED BY: *Phil R. R...*

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

P B M 8 2 0 1

PROJECT USATHAMA-GAAP

SITE TYPE WELL

4-10-92

SITE ID P B M - 8 2 - 0 1

JOB NUMBER 6853-04

SAMPLING DATE 4-9-92 (M)

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY START 0830 END 0730

WEATHER cloudy 45°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.04 FT

PROTECTIVE CASING/WELL DIFF. - .48 FT

WELL DEPTH 102.5 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 86.38 FT

26 GAL/VOL 22 (20)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 857.60

HEIGHT OF WATER COLUMN 10.12 FT

130 TOTAL GAL PURGED

GROUNDWATER ELEVATION 771.22

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR C.1 PPM

WELL MOUTH 0.1 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 220 GAL @ 44 GAL @ 66 GAL @ 88 GAL @ 130 GAL

TEMP, DEG C

pH, UNITS ☒ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.8	10.7	10.6	10.6	10.6
6.8			7.0	6.5
564	572	571	576	574
3.4 gpm				

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

855.7

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2				
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO ₄	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

*pH probe not working - used pH paper

SIGNATURE: *Pat C. Smith*

RECEIVED BY: *Nancy E. Rott*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN25104A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-85-04A

JOB NUMBER

6853-04

SAMPLING DATE

4-12-92

LOCATION

ACTIVITY START 1545 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, cloudy 40

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.08 FT

PROTECTIVE CASING/WELL DIFF.

- .17 FT

WELL DEPTH 111 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 93.82 FT

28 GAL/VOL

(28)

WELL INTEGRITY: PROT. CASING SECURE

YES NO N/A

RISER ELEVATION

866.36

HEIGHT OF WATER COLUMN 17.18 FT

140 TOTAL GAL PURGED

WELL LOCKED PVC WELL CAP

GROUNDWATER ELEVATION

766.54

PURGE H2O CONTAINED? ☒ VOC ☐ DNT ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 1.0 PPM

WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 28 GAL

@ 50 GAL

@ 34 GAL

@ 112 GAL

@ 140 GAL

TEMP, DEG C

10.3

10.5

10.2

10.3

10.1

pH, UNITS ☐ pH PAPER

7.2

7.14

7.12

7.14

7.13

SPECIFIC CONDUCTIVITY umhos/cm

4 gpm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

☒ PCTABLE WATER

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

GROUND ELEVATION

~855

SUBMERSIBLE PUMP

GRUNDEOS#

☐ LIQUINOX

☐ FLOAT ACTIVATED

BAILER

3/2" 4" #

☐ STEAM CLEANING

☐ PRESSURE TRANSDUCER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

PARAMETER	METHOD	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LCT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *ARC S. H. L.T.*

RECEIVED BY: *Wendy E. R.*

* RESAMPLED ON 4 29 92 FOR NAM (Reviews) *Red E. R.*

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM 8202

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-82-02

JOB NUMBER

6853-04

SAMPLING DATE

4-10-92

LOCATION

ACTIVITY START 1445 END 1530

PROGRAM

C

FILE NAME

CGW

WEATHER

101.0 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 117.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.15 FT

PROTECTIVE CASING/WELL DIFF.

-1.13 FT

WATER DEPTH 102.13 FT

12.5

GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

373.36

GROUNDWATER ELEVATION

771.23

HEIGHT OF WATER COLUMN 15.37 FT

62.5

TOTAL GAL PURGED

PURGE H₂O CONTAINED?

☒ VOC ☐ DNT ☐ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 12.5 GAL

@ 25 GAL

@ 37.5 GAL

@ 50 GAL

@ 62.5 GAL

TEMP, DEG C

PH, UNITS ☒ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

14.8

15.4

15.5

15.5

15.1

5.2

608

607

604

602

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP

☒ SUBMERSIBLE PUMP

☒ BAILER

☒ PVC/SILICON TUBING

☒ IN-LINE/DISPOSABLE FILTER

☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEFS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☒ LIQUINOX

☒ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☒ FLOAT ACTIVATED

☒ PRESSURE TRANSDUCER

GROUND ELEVATION

870.9

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
40 SS803	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Paul G. Little*

RECEIVED BY: *Nancy E. Rosta*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM8203

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-82-103

JOB NUMBER

6853-04

SAMPLING DATE

4-11-92

LOCATION

ACTIVITY START 0815 END 0915

PROGRAM

C

FILE NAME

CGW

WEATHER

Wet/Cloudy, 40%

WATER LEVEL / WELL DATA

WELL DEPTH 107 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.28 FT

PROTECTIVE CASING/WELL DIFF

-1.33 FT

WATER DEPTH 94.40 FT

26 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

864.73

HEIGHT OF WATER COLUMN 14.54 FT

130 TOTAL GAL PURGED

GROUNDWATER ELEVATION

770.27

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.1 PPM

WELL MOUTH 0.1 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH

PURGE DATA

PURGE VOLUME

@ 26 GAL

@ 52 GAL

@ 78 GAL

@ 104 GAL

@ 130 GAL

TEMP, DEG C

9.8

9.9

10.0

9.8

10.0

pH, UNITS ☒ pH PAPER

6.0

6.0

6.1

6.1

6.1

SPECIFIC CONDUCTIVITY umhos/cm

544

551

553

552

554

PUMP RATE, GPM

5.0

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

862.7

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BA/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLW			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Paul CS 4/11/92*

RECEIVED BY: *Nancy E. Rom*

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM31204

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBM-122-04

JOB NUMBER

6853-04

SAMPLING DATE 4-11-92

LOCATION

ACTIVITY START 0930 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

WET/CLOUDY 40%

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.29 FT

PROTECTIVE CASING/WELL DIFF.

- .05 FT

WELL DEPTH 115 FT.

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 101.40 FT

23.5 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER

ELEVATION 871.42

GROUNDWATER ELEVATION

170.02

HEIGHT OF WATER COLUMN 13.6 FT.

126 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.3 PPM

WELL MOUTH 0.5 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

23.5 GAL 51 GAL 75.5 GAL 102 GAL 126 GAL

TEMP, DEG C

pH, UNITS ☒ pH PAPER

SPECIFIC CONDUCTIVITY μ mhos/cm

PUMP RATE, GPM

10.8	9.6	11.0	10.6	10.4
6.5	6.5	6.5	6.5	6.5
593	529	598	598	515
4.5 gpm				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

269.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2				
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			373	00381010
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		374	
CL	TT08	YES	4 DEG C	500 ML POLY		375	
SO4	TT08	YES	4 DEG C			376	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		377	
TDS	USEPA 160.1	NO	4 DEG C			380	
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		378	
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		381	
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		379	
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		382	
NG	99	NO	4 DEG C	1 L AG		383	
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UW26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

HAD TO CLEAN PUMP IMPROVED TWICE AS THE WELL CONTAINED MAT. THAT LOOKED LIKE GRUNT

SIGNATURE: *Paul G. Smith/L.T.*

RECEIVED BY: *Wancy E. Roka*

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

P6M8205

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **4-1-92**

SITE ID **PBM-82-05**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION ACTIVITY **START 10-15 END 11-15**

PROGRAM **C**

WEATHER **WET CLOUDY 45°S**

WATER LEVEL / WELL DATA

WELL DEPTH **123.5 FT**

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.34 FT

PROTECTIVE CASING/WELL DIFF. **-0.01 FT**

WATER DEPTH **106.79 FT**

28 GAL/VOL **25.2**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED - CAP BLEN ☒
PVC WELL CAP ☒

RISER ELEVATION **276.12**

HEIGHT OF WATER COLUMN **16.71 FT**

140 TOTAL GAL PURGED

GROUNDWATER ELEVATION **770.13**

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **0.5** PPM

WELL MOUTH **0.5** PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

20 GAL

50 GAL

84 GAL

112 GAL

140 GAL

TEMP, DEG C

10.4

10.4

10.3

10.4

10.4

pH, UNITS ☒ pH PAPER

6.5

6.5

6.5

6.4

6.5

SPECIFIC CONDUCTIVITY umhos/cm

610

610

610

614

612

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

SUBMERSIBLE PUMP

ISCO #

☒ POTABLE WATER

ELECTRIC COND. PROBE

874.5

BAILER

GRIND FOS#

LIQUINOX

FLOAT ACTIVATED

PVC/SILICON TUBING

2" 4" #

STEAM CLEANING

PRESSURE TRANSDUCER

IN-LINE/DISPOSABLE FILTER

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2				
NA	YES	HNO ₃ TO pH<2				
CD	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
HARD	YES	HNO ₃ TO pH<2				
USEPA 130.2	YES	HNO ₃ TO pH<2				
TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO ₄	YES	4 DEG C				
TT08	YES	4 DEG C				
USEPA 310.1	NO	4 DEG C	500 ML POLY			
USEPA 160.1	NO	4 DEG C				
TOC	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
UM16	NO	4 DEG C	(2) 1 L AG			
99	NO	4 DEG C	1 L AG			
UN06	NO	4 DEG C	1 L AG			
UN25	NO	4 DEG C	1 L AG			
USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: **RICKS H. L.T.**

RECEIVED BY: **Wendy E. Roter**

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 8201A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-82-01A

JOB NUMBER

6853-04

SAMPLING DATE 4.9.92

LOCATION

ACTIVITY

START 0850/1215 END 1230

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 40°S

WATER LEVEL / WELL DATA

WELL DEPTH 118 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.25 FT

PROTECTIVE CASING/WELL DIFF.

1.03 FT

WATER DEPTH 112.11 FT

GAL/VOL 10

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

884.38

HEIGHT OF WATER COLUMN 5.89 FT

TOTAL GAL PURGED 5

GROUNDWATER ELEVATION

772.27

PURGE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.7 PPM

WELL MOUTH 0.9 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

a 25 GAL	a 5 GAL	a GAL	a GAL	a GAL
10.9	11.6			
6.5	6.9			
6.39	6.79			

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEDS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

881.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

ran dry @ 5-6 gpm let recharge 3 hours
and sampled. All in 2 liters were collected-
let recharge again + finished sample collection

SIGNATURE: *Patricia L. L.*

RECEIVED BY: *Nancy E. Rofa*

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN8201B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-82-01B

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION
ACTIVITY

START 1000 END 1130

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 131 FT.

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.60 FT

PROTECTIVE
CASING/WELL DIFF.

- .58 FT

WATER DEPTH 11.10 FT

24 GAL/VOL 24

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

RISER
ELEVATION

863.57

HEIGHT OF
WATER COLUMN 19.90 FT

120 TOTAL GAL PURGED 120

GROUNDWATER
ELEVATION

772.47

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 1.1 PPM

WELL MOUTH 1.2 PPM

WELL DIAMETER ☒ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 24 GAL

@ 48 GAL

@ 72 GAL

@ 96 GAL

@ 120 GAL

TEMP, DEG C

11.3

11.3

11.4

11.5

11.6

pH, UNITS ☐ pH PAPER

7.3

7.30

7.30

7.30

7.32

SPECIFIC CONDUCTIVITY umhos/cm

657

653

654

655

655

PUMP RATE, GPM

3

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

881.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CA SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> NA SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CD SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CR SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> HG SB03	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> PB SD24	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> NI SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> BA SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HARD USEPA 130.2	YES	HNO ₃ TO pH<2			469	05281010
<input type="checkbox"/> NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		470	
<input type="checkbox"/> CL TT08	YES	4 DEG C	500 ML POLY		471	
<input type="checkbox"/> SO4 TT08	YES	4 DEG C			472	
<input type="checkbox"/> ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input type="checkbox"/> TDS USEPA 160.1	NO	4 DEG C				
<input type="checkbox"/> TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
<input type="checkbox"/> NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
<input type="checkbox"/> VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			473	04281010
<input type="checkbox"/> BN/A UM16	NO	4 DEG C (2) 1 L AG				
<input type="checkbox"/> NG 99	NO	4 DEG C 1 L AG				
<input type="checkbox"/> NAM UN06	NO	4 DEG C 1 L AG			478	02281010
<input type="checkbox"/> DNT UW26	NO	4 DEG C 1 L AG			479	
<input type="checkbox"/> TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Paul G. Smith*

RECEIVED BY: *Marcy E. Rott*

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 2201C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-82-01C

JOB NUMBER

6853-04

SAMPLING DATE 4.9.92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 1145 END 1230

WEATHER

cloudy, 40°S

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

2.40

FT

PROTECTIVE

- .50

WELL DEPTH 141 FT

☒ MEASURED

☐

TOP OF CASING

CASING STICK-UP

(FROM GROUND)

PROTECTIVE

FT

WATER DEPTH 111.44 FT

☐ HISTORICAL

☐

31

GAL/VOL

312

WELL INTEGRITY:

833.77

HEIGHT OF

30

FT

155

TOTAL GAL PURGED

155

PROT. CASING SECURE

772.33

WATER COLUMN

30

FT

155

TOTAL GAL PURGED

155

155

CONCRETE COLLAR INTACT

772.33

PURGE H2O CONTAINED?

☒ VOC ☐ DNT ☐ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR

1.1

PPM

WELL MOUTH

1.1

PPM

WELL

2

INCH

DIAMETER

2

INCH

PURGE DATA

PURGE VOLUME

2 31 GAL

2 62 GAL

2 93 GAL

2 124 GAL

2 155 GAL

TEMP, DEG C

☐ PH PAPER

11.6

12.6

13.3

14.9

14.2

PH, UNITS

7.5

7.4

7.4

7.6

7.5

SPECIFIC CONDUCTIVITY umhos/cm

653

643

648

646

656

PUMP RATE, GPM

3.1

3.1

3.1

3.1

3.1

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒

☒

PERISTALTIC PUMP

ISCO #

☒

ELECTRIC COND. PROBE

881.5

☒

☒

SUBMERSIBLE PUMP

GRUNDEOS#

☐

FLOAT ACTIVATED

☒

☒

BAILER

2" 4" #

☐

PRESSURE TRANSDUCER

☒

☒

PVC/SILICON TUBING

2" 4" #

☐

NUMBER OF FILTERS USED

☐

☐

IN-LINE/DISPOSABLE FILTER

2" 4" #

☐

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C	500 ML POLY			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UW26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RLC S. 11/1/92

RECEIVED BY:

Ulaney E. Rofia

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 82102A

PROJECT USATHAMA-SAAP

SITE TYPE

WELL

SITE ID PBN-82-02A

JOB NUMBER

6853-04

SAMPLING DATE 4-8-92

LOCATION

ACTIVITY START 1200 END 1245

PROGRAM

C

FILE NAME

CGW

WEATHER cloudy, 50's

WATER LEVEL / WELL DATA

WELL DEPTH 119 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.08 FT

PROTECTIVE CASING/WELL DIFF. -0.06 FT

WATER DEPTH 113.75 FT

9 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 825.14

HEIGHT OF WATER COLUMN 5.25 FT

45 TOTAL GAL PURGED

GROUNDWATER ELEVATION 771.39

PURGE H2O CONTAINED? ☒ VOC ☐ DNT ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH
3/4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 9 GAL

@ 18 GAL

@ 27 GAL

@ 36 GAL

@ 45 GAL

TEMP, DEG C

pH, UNITS ☒ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.9

6.0

644

5

11.5

6.34

632

11.4

6.34

632

11.3

6.34

634

11.4

6.0

631

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

32" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

883.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* used pH meter

SIGNATURE: Paul C. Sullivan

RECEIVED BY: Nancy E. K.

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER PEIN 8202E

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID FBN-82-02B

JOB NUMBER 6853-04

SAMPLING DATE 4.8.92

LOCATION ACTIVITY START 1300 END 1315

PROGRAM C

FILE NAME CGW

WEATHER cloudy, 50°F

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.24 FT

PROTECTIVE CASING/WELL DIFF. -0.01 FT

WELL DEPTH 132 FT ☐ MEASURED ☒ HISTORICAL

WATER DEPTH 113.44 FT

HEIGHT OF WATER COLUMN 18.56 FT

WELL INTEGRITY: YES ☒ NO ☐ N/A ☐

PROT. CASING SECURE ☒

CONCRETE COLLAR INTACT ☒

WELL LOCKED ☒

PVC WELL CAP ☒

RISER ELEVATION 884.77

GROUNDWATER ELEVATION 771.55

PURGE H₂O CONTAINED? ☒ VOC ☐ DNT ☐ NO ☐ PVC ☐ SS

WELL MATERIAL AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH 4 INCH

PURGE DATA

PURGE VOLUME	<u>24</u> GAL	<u>48</u> GAL	<u>72</u> GAL	<u>6</u> GAL	<u>120</u> GAL	SAMPLE OBSERVATIONS <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	<u>12.1</u>	<u>12.0</u>	<u>12.1</u>	<u>11.6</u>	<u>11.9</u>	
PH, UNITS <input checked="" type="checkbox"/> PH PAPER	<u>6.4</u>	<u>6.5</u>	<u>6.5</u>	<u>6.28</u>	<u>6.27</u>	
SPECIFIC CONDUCTIVITY umhos/cm	<u>637</u>	<u>628</u>	<u>633</u>	<u>628</u>	<u>627</u>	
PUMP RATE, GPM	<u>3.3</u>					

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #

SUBMERSIBLE PUMP ☒ GROUND ELEVATION 882.9

BAILER ☒ 2" ☐ 4" #

PVC/SILICON TUBING ☒

IN-LINE/DISPOSABLE FILTER ☒

OTHER ☐

DERON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				
NIT	TF10	H2SO ₄ TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO ₄	TT08	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N ₂	USEPA 350.2	H2SO ₄ TO pH<2 500 ML POLY				
VCC	UM17	HCL, 4 DEG C (3)40 ML VIAL				
BN/A	UM16	4 DEG C (2) 1 L AG				
NG	99	4 DEG C 1 L AG				
NAM	UN06	4 DEG C 1 L AG				
DNT	UW26	4 DEG C 1 L AG				
TPH	USEPA 418.1	H2SO ₄ TO pH<2 1 L GWM				

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: RVCSTH/LT
RECEIVED BY: W. Nancy E. Rott

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER PBN3202C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.8.72

SITE ID PBN-32-02C

JOB NUMBER 6853-C-

FILE NAME CGW

LOCATION

PROGRAM C

WEATHER cloudy, SWF

ACTIVITY START 1400 END 1445

WATER LEVEL / WELL DATA

WELL DEPTH <u>141</u> FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND) <u>2.25</u> FT	PROTECTIVE CASING/WELL DIFF. <u>-0.10</u> FT
WATER DEPTH <u>113.80</u> FT			WELL INTEGRITY: PROT. CASING SECURE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A CONCRETE COLLAR INTACT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A WELL LOCKED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A PVC WELL CAP <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	RISER ELEVATION <u>385.28</u>
HEIGHT OF WATER COLUMN <u>27.2</u> FT	<u>28</u> GAL/VOL	<u>140</u> TOTAL GAL PURGED		GROUNDWATER ELEVATION <u>771.48</u>
PURGE H ₂ O CONTAINED? <input checked="" type="checkbox"/> VOC <input type="checkbox"/> DNT <input type="checkbox"/> NO	WELL MATERIAL <input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	AMBIENT AIR <u>0.0</u> PPM	WELL MOUTH <u>0.0</u> PPM	WELL DIAMETER <input checked="" type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH

PURGE DATA

PURGE VOLUME	<u>@ 28</u> GAL	<u>@ 56</u> GAL	<u>@ 8.4</u> GAL	<u>@ 112</u> GAL	<u>@ 140</u> GAL	SAMPLE OBSERVATIONS <input type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	<u>12.5</u>	<u>12.4</u>	<u>11.5</u>	<u>11.3</u>	<u>11.3</u>	
DM, UNITS <input checked="" type="checkbox"/> DM PAPER	<u>6.5</u>	<u>6.5</u>	<u>6.5</u>	<u>6.5</u>	<u>6.5</u>	
SPECIFIC CONDUCTIVITY umhos/cm	<u>573</u>	<u>571</u>	<u>571</u>	<u>569</u>	<u>569</u>	
PUMP RATE, GPM	<u>3.5</u>	<u>3.5</u>	<u>3.5</u>	<u>3.5</u>	<u>3.5</u>	

EQUIPMENT DOCUMENTATION

PURGING <input checked="" type="checkbox"/> SAMPLING <input checked="" type="checkbox"/>	EQUIPMENT ID	DERON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
PERISTALTIC PUMP	ISCO #	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE	<u>822.9</u>
SUBMERSIBLE PUMP	GRUNDFOS #	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED	
BAILER	2" 4" #	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER	
PVC/SILICON TUBING				
IN-LINE/DISPOSABLE FILTER				
OTHER				
		NUMBER OF FILTERS USED <u>1</u>		

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
AS 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Paul S. Suter, L.T.

RECEIVED BY: Nancy E. P.

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID PBN-82-03A
 LOCATION ACTIVITY START 1400 END 1500

FIELD SAMPLING NUMBER PBN8203A
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4.9.92
 FILE NAME CGW
 WEATHER Sunny, 50's

WATER LEVEL / WELL DATA

WELL DEPTH 96.5 FT ☐ MEASURED ☐ HISTORICAL
 WATER DEPTH 90.25 FT
 HEIGHT OF WATER COLUMN 6.25 FT
 TOP OF WELL ☒ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.21 FT
 PROTECTIVE CASING/WELL DIFF. - .07 FT
 RISER ELEVATION 859.74
 GROUNDWATER ELEVATION 769.69
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☒
 CONCRETE COLLAR INTACT ☒
 WELL LOCKED ☒
 PVC WELL CAP ☒
 PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☐ NO ☒ PVC ☐ SS
 AMBIENT AIR 0.7 PPM
 WELL MOUTH 0.7 PPM
 WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH

PURGE DATA

PURGE VOLUME	@ 10 GAL	@ 20 GAL	@ 30 GAL	@ 40 GAL	@ 50 GAL	SAMPLE OBSERVATIONS <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	<u>13.7</u>	<u>13.7</u>				
PH, UNITS <input type="checkbox"/> pH PAPER	<u>7.6</u>	<u>7.5</u>				
SPECIFIC CONDUCTIVITY μ mhos/cm	<u>585</u>	<u>607</u>				
PUMP RATE, GPM	<u>3.4</u>					

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
 SUBMERSIBLE PUMP ☐ GRUNDEOS#
 BAILER ☐ 2" 4" #
 PVC/SILICON TUBING ☐
 IN-LINE/DISPOSABLE FILTER ☐
 OTHER ☐
 DEFON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 GROUND ELEVATION 857.6
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2				
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO ₄	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

PUR FUMP TO THE BOTTOM OF WELL, PUMPED 224 @ 15 GAL LET RECHARGE - THEN TOOK 222 READING. LET RECHARGE AND SAMPLED @ 1800

SIGNATURE: Paul C. Sull/L.T.
 RECEIVED BY: Nancy E. Porter

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 82 03 B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-82-03B

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION

ACTIVITY START 1515 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, 50° S

WATER LEVEL / WELL DATA

WELL DEPTH 109 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.11 FT

PROTECTIVE CASING/WELL DIFF.

-0.03 FT

WATER DEPTH 90.48 FT

24 GAL/VOL 24

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

860.16

HEIGHT OF WATER COLUMN 18.52 FT

120 TOTAL GAL PURGED

GROUNDWATER ELEVATION

769.68

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.1 PPM

WELL MOUTH 0.9 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 24 GAL

@ 48 GAL

@ 72 GAL

@ 96 GAL

@ 120 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY μ mhos/cm

PUMP RATE, GPM

11.8

4.6

625

3.0 gpm

11.7

7.4

630

11.9

7.3

617

11.8

7.3

611

11.7

7.3

611

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

857.6

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Paul G. Smith

RECEIVED BY: Nancy E. B.

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **PBN 2105C**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **PBN-32-03C**

JOB NUMBER **6853-04**

SAMPLING DATE **4/9/92**

LOCATION **START 1645 END 1200**

PROGRAM **C**

FILE NAME **CGW**

ACTIVITY

WEATHER **Sunny, 50°**

WATER LEVEL / WELL DATA

WELL DEPTH **117.5 FT.**

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.42 FT

PROTECTIVE CASING/WELL DIFF. **- .49 FT**

WATER DEPTH **10.39 FT**

30 GAL/VOL **30**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION **860.06**

HEIGHT OF WATER COLUMN **27.11 FT**

150 TOTAL GAL PURGED

GROUNDWATER ELEVATION **767.67**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **0.0** PPM

WELL MOUTH **0.0** PPM

WELL DIAMETER **2** INCH
4 INCH

PURGE DATA

PURGE VOLUME

@ 30 GAL	@ 60 GAL	@ 90 GAL	@ 120 GAL	@ 150 GAL
12.1	12.4	11.6	11.8	12.3
7.6	7.5	7.3	7.3	7.3
7.3	7.1	7.1	7.1	7.0
3				

TEMP, DEG C

PH, UNITS ☐ OH PAPER

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

857.6

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			541	052210.0
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		542	
CL TT08	YES	4 DEG C	500 ML POLY		543	
SO4 TT08	YES	4 DEG C			544	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		545	
TDS USEPA 160.1	NO	4 DEG C			546	
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		547	
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		548	
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		549	042275.0
BN/A UM16	NO	4 DEG C	(2) 1 L AG		550	02210.0
NG 99	NO	4 DEG C	1 L AG		551	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: **Pat C. Galt / L.T.**

RECEIVED BY: **Mary E. Ropa**

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PEN8204B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PEN-82-04B

JOB NUMBER

6853-04

SAMPLING DATE

4/26/92

LOCATION

ACTIVITY START 1000 END 1100

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 40°F

WATER LEVEL / WELL DATA

WELL DEPTH 120 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.30 FT

PROTECTIVE CASING/WELL DIFF.

1.05 FT

WATER DEPTH 105.25 FT

21 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒

RISER ELEVATION

874.58

GROUNDWATER ELEVATION

769.37

HEIGHT OF WATER COLUMN 14.75 FT

106 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.6 PPM

WELL MOUTH 0.6 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME	21 GAL	42 GAL	63 GAL	84 GAL	106 GAL
TEMP, DEG C	10.6	10.7	10.1	10.7	10.6
pH, UNITS <input type="checkbox"/> pH PAPER	7.5	7.4	7.4	7.4	7.2
SPECIFIC CONDUCTIVITY umhos/cm	591	595	592	600	592
PUMP RATE, GPM	1.75				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

873.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				
NIT	TF10	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	um33	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AC			
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UW26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, ED, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

well not secure due to casing/well differential
slow recharge detected slow pump rate (1.75 gpm)

SIGNATURE:

RECEIVED BY:

John Tracy
Paul R. Kuster

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FBIN 82104C

PROJECT: USATHAMA-BAAP

SITE TYPE

WELL

SITE ID: FBIN-82-04C

JOB NUMBER

6853-04

SAMPLING DATE

4/26/12

LOCATION

ACTIVITY

START

1000

END

1130

PROGRAM

C

FILE NAME

CGW

WEATHER

Clear, 40-84

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.50 FT

PROTECTIVE CASING/WELL DIFF.

1.03 FT

WELL DEPTH

131.5 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

106.15 FT

HEIGHT OF WATER COLUMN

25.35 FT

29 GAL/VOL

145 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

RISER ELEVATION

875.48

GROUNDWATER ELEVATION

871.34

PURGE H2O CONTAINED
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 3.0 PPM

WELL MOUTH 0.2 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

29 GAL

58 GAL

97 GAL

145 GAL

145 GAL

TEMP, DEG C

10.6

10.9

11.2

11.0

11.1

pH, UNITS ☐ pH PAPER

7.3

7.4

7.2

7.2

7.2

SPECIFIC CONDUCTIVITY umhos/cm

300

500

500

589

589

PUMP RATE, GPM

1.0

1.0

1.0

1.0

1.0

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

SUBMERSIBLE PUMP

GROUNDROD#

BAILER

2" 4" #

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

873.0

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		565	105281012
<input type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		566	
<input type="checkbox"/> SO4	TT08	YES	4 DEG C			567	
<input type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		568	
<input type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C			569	
<input type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
<input type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
<input type="checkbox"/> VOC	USEPA 8160	NO	HCL, 4 DEG C (3)40 ML VIAL			570	00257012
<input type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG			571	00257012
<input type="checkbox"/> NG	99	NO	4 DEG C 1 L AG			572	00257012
<input type="checkbox"/> NAM	UN06	NO	4 DEG C 1 L AG			573	00257012
<input type="checkbox"/> DNT	UN26	NO	4 DEG C 1 L AG			574	00257012
<input type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2 1 L GUM			575	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- well not secure due to casing/well differential
- slow recharge dictated slow pump rate (1gpm)

SIGNATURE:

Jeffrey V. Tracy

RECEIVED BY:

Carl R. Smith

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PEN 8205A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PIN-82-05A

JOB NUMBER

6853-04

SAMPLING DATE

4-13-92

LOCATION

ACTIVITY START 0800 END 1030

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 112 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE

CASING STICK-UP
(FROM GROUND)

2.51 FT

PROTECTIVE

CASING/WELL DIFF.

- .30 FT

WATER DEPTH 108.74 FT

5

GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISE

ELEVATION

878.50

HEIGHT OF

WATER COLUMN 3.26 FT

25

TOTAL GAL PURGED

GROUNDWATER

ELEVATION

769.76

PURGE H₂O CONTAINED?
☐ VOC ☒ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH ^{DRINK} 0.4 PPM

WELL DIAMETER ☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 5 GAL

@ 10 GAL

@ 5 GAL

@ 20 GAL

@ 25 GAL

TEMP, DEG C

☒ PH PAPER

PH, UNITS

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.3

9.3

9.1

9.6

9.7

6.0

6.0

4.6

6

6

707

712

416

701

717

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

875.2

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				
NIT	TF10	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	UM 33	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AG			
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UW26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

CASING CAP 200-200

SIGNATURE:

Rebecca L.T.

RECEIVED BY:

Nancy E. Rota

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PIEN82-05B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID PIEN-82-05B

JOB NUMBER 6853-04

SAMPLING DATE 4.13.92

LOCATION

ACTIVITY START 0830 END 1000

PROGRAM C

FILE NAME CGW

WEATHER cloudy, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 124 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.69 FT

PROTECTIVE CASING/WELL DIFF. - .40 FT

WATER DEPTH 107.95 FT

23 GAL/VOL 22 L

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
PVC WELL CAP ☒ ☐ ☐
WELL MOUTH 0.0 PPM

RISER ELEVATION 377.68

HEIGHT OF WATER COLUMN 16.05 FT

118 TOTAL GAL PURGED 113

GROUNDWATER ELEVATION 769.73

PURGE H₂O CONTAINED? ☒ VOC ☐ DNT ☐ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 23 GAL

@ 46 GAL

@ 69 GAL

@ 92 GAL

@ 115 GAL

TEMP, DEG C

PH, UNITS ☒ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.9

10.0

10.3

10.5

10.6

6.0

6.0

6.0

6.0

6.0

744

792

792

778

800

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

875.3

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	589		052810.C
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY	590		
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C	500 ML POLY	591		
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	592		
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TCC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
<input checked="" type="checkbox"/> VOC	USEPA 8160	NO	HCL, 4 DEG C (3)40 ML VIAL				
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG		593	594	042320.C
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C 1 L AG		596	597	022810.C
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C 1 L AG		598		022810.C
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C 1 L AG		599		
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

CASING CAP BROKEN

SIGNATURE: R. L. C. J. L. T.

RECEIVED BY: Nancy E. P.

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 82-05C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.13.92

SITE ID PBN-82-05C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1045 END 1200

PROGRAM C

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH 133 FT

MEASURED
HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.11 FT

PROTECTIVE CASING/WELL DIFF.

1.02

WATER DEPTH 108.38 FT

25 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER ELEVATION

878.18

GROUNDWATER ELEVATION

769.80

HEIGHT OF WATER COLUMN 24.62 FT

125 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.7 PPM

WELL MOUTH 6.7 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME	@ 25 GAL	@ 50 GAL	@ 75 GAL	@ 100 GAL	@ 125 GAL
TEMP, DEG C	10.3	10.2	10.0	10.1	10.4
PH, UNITS	6.2	6.2	6	6	6
SPECIFIC CONDUCTIVITY umhos/cm	706	702	702	702	690
PUMP RATE, GPM	3.5				

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING	SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP SUBMERSIBLE PUMP BAILER PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER	ISCO # GRUNDFOS # 2" 4" #	<input checked="" type="checkbox"/> POTABLE WATER <input checked="" type="checkbox"/> LIQUINOX <input checked="" type="checkbox"/> STEAM CLEANING	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE <input checked="" type="checkbox"/> FLOAT ACTIVATED <input checked="" type="checkbox"/> PRESSURE TRANSDUCER
					875.2

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2				
CA	SS16	YES	HN03 TO pH<2			
NA	SS16	YES	HN03 TO pH<2			
CD	SS16	YES	HN03 TO pH<2			
CR	SS16	YES	HN03 TO pH<2			
HG	SB03	YES	HN03 TO pH<2			
PB	SD24	YES	HN03 TO pH<2			
NI	SS16	YES	HN03 TO pH<2			
BA	SS16	YES	HN03 TO pH<2			
HARD	USEPA 130.2	YES	HN03 TO pH<2			
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY	601	052810C
CL	TT08	YES	4 DEG C	500 ML POLY	602	
SO4	TT08	YES	4 DEG C		603	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	604	
TDS	USEPA 160.1	NO	4 DEG C			
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
VOC	USEPA 33	NO	HCL, 4 DEG C	(3) 40 ML VIAL	605	042310C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG	606	022810C
NG	99	NO	4 DEG C	1 L AG	607	
NAM	UN06	NO	4 DEG C	1 L AG		
DNT	UW26	NO	4 DEG C	1 L AG	608	022310C
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	609	

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MM, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: K. C. Smith/L.T.

RECEIVED BY: Nancy E. Porter

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

LOM7101

PROJECT: USATHAMA-BAAP

SITE TYPE

WELL

SITE ID: LOM-71-01

JOB NUMBER

6853-04

SAMPLING DATE

4/22/92

LOCATION

ACTIVITY: START 0800 END 0900

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy 40%

WATER LEVEL / WELL DATA

☐

TOP OF WELL

PROTECTIVE

2.01 FT

PROTECTIVE

.22 FT

WELL DEPTH

152 FT

☐ MEASURED

☒ HISTORICAL

TOP OF CASING

CASING STICK-UP

(FROM GROUND)

WATER DEPTH

144.7 FT

12

GAL/VOL

WELL INTEGRITY:

YES

NO

N/A

RISER

ELEVATION

917.51

HEIGHT OF

WATER COLUMN

7.3 FT

60

TOTAL GAL PURGED

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

GROUNDWATER

ELEVATION

722.81

PURGE H₂O CONTAINED?

☐ VCC

☐ DNT

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

4.2 PPM

WELL MOUTH

1.1 PPM

WELL

DIAMETER

2 INCH

4 INCH

1 INCH

PURGE DATA

08:09

08:13

08:17

08:21

08:25

PURGE VOLUME

@ 12 GAL

@ 24 GAL

@ 36 GAL

@ 48 GAL

@ 60 GAL

TEMP, DEG C

10.6

10.6

10.6

9.9

10.2

PH, UNITS

☐ PH PAPER

7.07

7.32

7.42

7.45

7.52

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

630

641

647

655

635

PUMP RATE, GPM

3

3

3

3

3

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ CCCR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☐

☐

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

GRUNDFOS# ARB 02

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

915.5

☐

☐

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

BOTTLE

	NUMBER		METHOD	REQUIRED	COLLECTED			LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY				
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2					
CA	SS16	YES	HNO ₃ TO pH<2			61		032600C
NA	SS16	YES	HNO ₃ TO pH<2					
CO	SS16	YES	HNO ₃ TO pH<2					
CR	SS16	YES	HNO ₃ TO pH<2					
HG	SB03	YES	HNO ₃ TO pH<2					
PB	SD24	YES	HNO ₃ TO pH<2					
NI	SS16	YES	HNO ₃ TO pH<2					
BA	SS16	YES	HNO ₃ TO pH<2					
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2					
NI7	TF10	YES	H2SO4 TO pH<2	500 ML POLY		61		032600C
CL	TT08	YES	4 DEG C	500 ML POLY		62		032600C
SG4	TT08	YES	4 DEG C			63		
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		64		
TDS	USEPA 160.1	NO	4 DEG C					
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL				
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY				
VCC	UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		65	66	032600C
BA/A	UM16	NO	4 DEG C	(2) 1 L AG		67	68	032600C
NG	99	NO	4 DEG C	1 L AG				
NAM	UNC6	NO	4 DEG C	1 L AG		70		032600C
DAT	UW26	NO	4 DEG C	1 L AG		71		
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

James E. Carter

RECEIVED BY:

Paul K. Carter

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID LOM-191-02
 LOCATION
 ACTIVITY START 0930 END 1000

FIELD SAMPLING NUMBER LOM7102
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4/22/92
 FILE NAME CGW
 WEATHER OVERCAST 40's

WATER LEVEL / WELL DATA

WELL DEPTH 149 FT MEASURED ☒ TOP OF WELL ☒ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND) 1.9 FT PROTECTIVE CASING/WELL DIFF. 11 FT
 WATER DEPTH 138.55 FT HISTORICAL ☐ RISER ELEVATION 912.30
 HEIGHT OF WATER COLUMN 10.5 FT 17 GAL/VOL 83 TOTAL GAL PURGED 83 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☒ CONCRETE COLLAR INTACT ☒ WELL LOCKED ☒ PVC WELL CAP ☒ GROUNDWATER ELEVATION 773.75
 PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO WELL MATERIAL ☒ PVC ☐ SS AMBIENT AIR 1.1 PPM WELL MOUTH 1.1 PPM WELL DIAMETER 2 INCH 4 INCH

PURGE DATA

	11 30	11 37	11 44	11 51	11 58	SAMPLE OBSERVATIONS
PURGE VOLUME	@ 17 GAL	@ 34 GAL	@ 51 GAL	@ 68 GAL	@ 85 GAL	
TEMP, DEG C	10.5	10.7	10.7	10.7	10.7	<input type="checkbox"/> CLOUDY
PH, UNITS <input type="checkbox"/> PH PAPER	7.87	7.69	7.65	7.40	7.13	<input type="checkbox"/> COLORED
SPECIFIC CONDUCTIVITY umhos/cm	660	650	657	657	652	<input type="checkbox"/> TURBID
PUMP RATE, GPM	2.5					<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #
 SUBMERSIBLE PUMP ☒ GRUNDOS# ABB-2
 BAILER ☒ 2" 4" #
 PVC/SILICON TUBING ☒
 IN-LINE/DISPOSABLE FILTER ☒
 OTHER ☐ DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED PRESSURE TRANSDUCER
 GROUND ELEVATION 910.3
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		73	032601C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			73	032601C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		74	032601C
CL TT08	YES	4 DEG C	500 ML POLY		75	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		76	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		77	032601C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		80	032601C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		82	032601C
DNT UW26	NO	4 DEG C	1 L AG		83	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Laura E. Catey 16P
 RECEIVED BY: Paul R. Rios

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PAGE _____ OF _____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

L 0 m 8 9 0 1

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID L 0 m - 8 9 - 0 1

JOB NUMBER

6853-04

SAMPLING DATE

4 10 92

LOCATION

ACTIVITY START 1300 END 1430

PROGRAM

C

FILE NAME

CGW

WEATHER

RAIN, 40%

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.54 FT

PROTECTIVE CASING/WELL DIFF.

- .33 FT

WELL DEPTH 160.5 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 146.0 FT

26 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

917.86

GROUNDWATER ELEVATION

771.86

HEIGHT OF WATER COLUMN 14.5 FT

130 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☒ 2 INCH
☐ 1 INCH
☐ 1 INCH

RAINING

PURGE DATA

PURGE VOLUME

@ 26 GAL

@ 52 GAL

@ 78 GAL

@ 104 GAL

@ 130 GAL

TEMP, DEG C

12.1

11.3

11.2

11.2

11.2

PH, UNITS ☒ PH PAPER

6.1

6.5

6.4

6.3

6.39

SPECIFIC CONDUCTIVITY μ mhos/cm

650

650

654

659

659

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS # 3

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

915.9

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

BOTTLE LOT #

PP METALS (SPECIFIED BELOW)

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

TAL METALS (SPECIFIED BELOW)

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

CA

SS16

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

NA

SS16

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

CO

SS16

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

CR

SS16

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

HG

SB03

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

PB

SD24

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

NI

SS16

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

BA

SS16

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

HARD

USEPA 130.2

YES

HNO₃ TO pH<2

1 L POLY

☒

1 / / /

NIT

TF10

YES

H₂SO₄ TO pH<2

500 ML POLY

☒

1 / / /

CL

TT08

YES

4 DEG C

500 ML POLY

☒

1 / / /

SO₄

TT08

YES

4 DEG C

500 ML POLY

☒

1 / / /

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

☒

1 / / /

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

☒

1 / / /

TOC

USEPA 415.1

NO

H₂SO₄ TO pH<2

(3) 40 ML VIAL

☒

1 / / /

NH₃N

USEPA 350.2

NO

H₂SO₄ TO pH<2

500 ML POLY

☒

1 / / /

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

☒

1 / / /

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

☒

1 / / /

NG

99

NO

4 DEG C

1 L AG

☒

1 / / /

NAM

LN06

NO

4 DEG C

1 L AG

☒

1 / / /

DNT

UW26

NO

4 DEG C

1 L AG

☒

1 / / /

TPH

USEPA 418.1

NO

H₂SO₄ TO pH<2

1 L GWM

☒

1 / / /

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *ReCS HLT*

RECEIVED BY: *Wancy E Port*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

L0N3902A

PROJECT: USATHAMA-BAAP

SITE TYPE

WELL

SITE ID: L0N-89-02A

JOB NUMBER

6853-04

SAMPLING DATE

4/22/92

LOCATION

ACTIVITY: START 0800 END 0900

PROGRAM

C

FILE NAME

CGW

WEATHER

Clouds, 45°F

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.90 FT

PROTECTIVE

CASING/WELL DIFF.

-0.13 FT

WELL DEPTH

161

FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

149.2/FT

19

GAL/VOL

☒

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

920.59

GROUNDWATER

ELEVATION

771.38

HEIGHT OF

WATER COLUMN

11.79 FT

957.2

TOTAL GAL PURGED

☒

PURGE H₂O CONTAINED?

☒ VOC

☐ DNT

☐ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR 0.1 PPM

WELL MOUTH 0.1 PPM

WELL

DIAMETER

☒ 2 INCH

☐ 4 INCH

PURGE DATA

PURGE VOLUME

@ 19 GAL

@ 38 GAL

@ 57 GAL

@ 76 GAL

@ 95 GAL

TEMP, DEG C

11.1

11.1

10.5

11.1

11.4

pH, UNITS

☐ pH PAPER

7.35

7.37

7.32

7.15

7.17

SPECIFIC CONDUCTIVITY umhos/cm

316

712

712

712

715

PUMP RATE, GPM

3.0

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

918.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		13	0326101C
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2			13	0326101C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		14	0528101C
CL	TT08	YES	4 DEG C	500 ML POLY		15	
SO4	TT08	YES	4 DEG C			16	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		17	0428101C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		20	0228101C
NG	99	NO	4 DEG C	1 L AG		22	0228101C
NAM	UN06	NO	4 DEG C	1 L AG		23	
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

- cloudy for 5 minutes, clear afterwards
- stone collar intact

SIGNATURE:

Lyle Tracy / AA

RECEIVED BY:

Rod K. Velt

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

LON8702B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/22/02

SITE ID LON-87-02B

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION

PROGRAM C

WEATHER Clear 85F

ACTIVITY START 0900 END 1100

WATER LEVEL / WELL DATA

WELL DEPTH 200 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.30 FT

PROTECTIVE
CASING/WELL DIFF.

-0.25 FT

WATER DEPTH 149.76 FT

49 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER

ELEVATION 921.13

HEIGHT OF

WATER COLUMN 50.24 FT

245 TOTAL GAL PURGED

GROUNDWATER

ELEVATION 771.37

PURGE H₂O CONTAINED?

VOC CNT [X] NO

WELL MATERIAL

PVC [X] SS []

AMBIENT AIR NR

PPM WELL MOUTH NR

PPM

WELL DIAMETER

2 INCH
4 INCH
6 INCH

PURGE DATA

PURGE VOLUME

@ 49 GAL

@ 99 GAL

@ 147 GAL

@ 196 GAL

@ 245 GAL

TEMP, DEG C

11.2

11.4

16.7

16.4

11.2

PH, UNITS [] PH PAPER

7.3

7.1

7.3

7.3

7.2

SPECIFIC CONDUCTIVITY μ MOS/CM

704

680

681

672

682

PUMP RATE, GPM

2.0

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
COOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

[X] PERISTALTIC PUMP
[X] SUBMERSIBLE PUMP
[X] BAILER
[X] PVC/SILICON TUBING
[X] IN-LINE/DISPOSABLE FILTER
[] OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
22" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

918.9

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		25	
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			25	
MT TF10	YES	H2SO4 TO pH<2	500 ML POLY		26	
CL TT08	YES	4 DEG C	500 ML POLY		27	
SO4 TT08	YES	4 DEG C			28	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		29 30 31	
BN/A UM16	NO	4 DEG C	(2) 1 L AG		32 33	
NG 99	NO	4 DEG C	1 L AG			
AAM UN06	NO	4 DEG C	1 L AG		34	
CNT UW26	NO	4 DEG C	1 L AG		35	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLW			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

-NR= NO READING - TE inoperable
-No concrete collar - hole star - sink hole
@ casing collar contact.

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER LON8903A

PROJECT USATHAMA-SAAP

SITE TYPE WELL

SITE ID LON-89-03A

JOB NUMBER 6853-04

SAMPLING DATE 4-22-92

LOCATION ACTIVITY START 1000 END 1100

PROGRAM C

FILE NAME CGW

WEATHER RAIN - 10

WATER LEVEL / WELL DATA

WELL DEPTH 161 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.75 FT

PROTECTIVE CASING/WELL DIFF. 0.18 FT

WATER DEPTH 150.99 FT

17 GAL/VOL 17

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES ☒ NO ☐ N/A ☐

RISER ELEVATION 922.14

HEIGHT OF WATER COLUMN 10.01 FT

85 TOTAL GAL PURGED

GROUNDWATER ELEVATION 771.15

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR NR PPM

WELL MOUTH NR PPM

WELL DIAMETER 2 INCH
4 INCH

PURGE DATA

PURGE VOLUME	<u>@ 17</u> GAL	<u>@ 34</u> GAL	<u>@ 51</u> GAL	<u>@ 68</u> GAL	<u>@ 85</u> GAL
TEMP, DEG C	<u>10.5</u>	<u>10.8</u>	<u>10.2</u>	<u>10.4</u>	<u>11.0</u>
pH, UNITS <input type="checkbox"/> pH PAPER	<u>7.3</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>
SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$	<u>769</u>	<u>668</u>	<u>666</u>	<u>671</u>	<u>670</u>
PUMP RATE, GPM	<u>4.5</u>				

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒
SUBMERSIBLE PUMP ☐
BAILER ☐
PVC/SILICON TUBING ☐
IN-LINE/DISPOSABLE FILTER ☐
OTHER ☐

EQUIPMENT ID
ISCO # ☒
GRUNDOS# ☒

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION 919.2

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2			37	032601C
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2			37	032601C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY		38	032601C
CL	TT08	4 DEG C	500 ML POLY		39	
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY		40	
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	USEPA 333	HCL, 4 DEG C	(3) 40 ML VIAL		41	042601C
BN/A	UM16	4 DEG C	(2) 1 L AG		44	022810C
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG		46	022810C
DNT	UN26	4 DEG C	1 L AG		47	
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

NR = No reading - TE irreparable
No concrete collar - stone collar

SIGNATURE: Shirley Gray, IAA

RECEIVED BY: Ed R. Smith

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

LCN89038

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/22/92

SITE ID LCN-89-038

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1400 END 1500

PROGRAM C

WEATHER OVERCAST 40 S

WATER LEVEL / WELL DATA

WELL DEPTH 200 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.46

FT

PROTECTIVE
CASING, WELL DIFF.

.21

FT

WATER DEPTH 150.68 FT

35

GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

921.79

HEIGHT OF
WATER COLUMN 49.32 FT

175

TOTAL GAL PURGED

GROUNDWATER

ELEVATION

921.01

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 00 PPM

WELL MOUTH 00 PPM

WELL
DIAMETER 2 INCH
4 INCH
6 INCH

PURGE DATA

PURGE VOLUME

@ 35 GAL

@ 70 GAL

@ 105 GAL

@ 140 GAL

@ 175 GAL

TEMP, DEG C

11.4

11.2

11.3

11.7

11.4

PH, UNITS PH PAPER

7.60

7.54

7.56

7.53

7.55

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

814

796

782

792

814

PUMP RATE, GPM

3

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #A2842

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

919.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		49	03200016
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			49	03200016
NI T10	YES	H2SO4 TO pH<2	500 ML POLY		50	03200016
CL T108	YES	4 DEG C	500 ML POLY		51	
SO4 T108	YES	4 DEG C			52	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		53	
TDS USEPA 160.1	NO	4 DEG C			54	
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			55	
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			56	
VOC USEPA 8160	NO	HCL, 4 DEG C (3)40 ML VIAL			57	
BN/A UM16	NO	4 DEG C (2) 1 L AG			58	
NG 99	NO	4 DEG C 1 L AG			59	
NAM UNC6	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Laura E. Cate

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN 91102D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/29/92

SITE ID SPN-91-02D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1200 END 1430

PROGRAM C

WEATHER HAZY 60°

WATER LEVEL / WELL DATA

WELL DEPTH 185 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.70 FT

PROTECTIVE CASING/WELL DIFF. -1.10 FT

WATER DEPTH 62 FT

80.5 GAL/VOL (80.5)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 824.23

HEIGHT OF WATER COLUMN 123 FT

504 TOTAL GAL PURGED (504)

GROUNDWATER ELEVATION 762.03

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

12:39 1:00 1:21 1:42 2:01
a 4.5 GAL a 16.1 GAL a 24.5 GAL a 32.2 GAL a 50.4 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

13.1	12.9	12.8	12.6	12.8
7.78	7.82	7.82	7.96	7.82
3.27	1.00	3.82	5.83	5.81

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# A622
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

821.6

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2			1276	022600
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1276	022600
WIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1277	022600
CL TT08	YES	4 DEG C	500 ML POLY		1278	
SO ₄ TT08	YES	4 DEG C	500 ML POLY		1279	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1280	022600
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1283	022600
HG 99	NO	4 DEG C	1 L AG		1285	
NAM UN06	NO	4 DEG C	1 L AG		1286	
DNT UW26	NO	4 DEG C	1 L AG		1287	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Gary R. Peltier*
RECEIVED BY: *Rob P. Peltier*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SIPN91103D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 11/29/92

SITE ID SIPN-911-03D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION

PROGRAM C

WEATHER sunny, 60s

ACTIVITY START 1100 END 1600

WATER LEVEL / WELL DATA

WELL DEPTH 203 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.14 FT

PROTECTIVE CASING/WELL DIFF. -1.13 FT

WATER DEPTH 57.07 FT

GAL/VOL 116.5

WELL INTEGRITY:
☒ PROT. CASING SECURE
☒ CONCRETE COLLAR INTACT
☒ WELL LOCKED
☒ PVC WELL CAP

RISER ELEVATION 819.36

HEIGHT OF WATER COLUMN FT

TOTAL GAL PURGED 582

GROUNDWATER ELEVATION 162.39

PURGE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR 0.1 PPM

WELL MOUTH 1.3 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

1.45 2.00 2.15 2.30 2.45
@ 116.5 GAL @ 233 GAL @ 349.5 GAL @ 468 GAL @ 582 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.9	11.8	11.4	11.3	11.7
7.8	7.3	7.4	7.4	7.4
585	575	581	579	578
8 gpm				

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

816.7

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1288	0326601C
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1288	0326601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1289	0528101C
CL TT08	YES	4 DEG C	500 ML POLY		1290	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1291	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1292	0326601C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1293	0528101C
NG 99	NO	4 DEG C	1 L AG		1294	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG		1295	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		1296	

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN 9104D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/29/92

SITE ID SPN-91-04D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1130 END 1400

PROGRAM C

WEATHER SUN 60's

WATER LEVEL / WELL DATA

☒ TOP OF WELL PROTECTIVE
☐ TOP OF CASING CASING STICK-UP
(FROM GROUND)

1.81 FT

PROTECTIVE CASING/WELL DIFF. -3.34 FT

WELL DEPTH 204 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 40.44 FT

131 GAL/VOL (130.5)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 802.52

HEIGHT OF WATER COLUMN 163.56 FT

655 TOTAL GAL PURGED (653)

GROUNDWATER ELEVATION 762.14

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.7 PPM

WELL DIAMETER 2 INCH
3/4 INCH
INCH

PURGE DATA

PURGE VOLUME	1135	1149	1204	1218	1233
	2131 GAL	2262 GAL	2398 GAL	2524 GAL	2655 GAL
TEMP, DEG C	12.0	11.2	11.4	11.5	11.3
PH, UNITS <input type="checkbox"/> PH PAPER	7.7	7.4	7.3	7.3	7.3
SPECIFIC CONDUCTIVITY umhos/cm	478	466	464	460	466
PUMP RATE, GPM (2 Pumps)	1 gpm				

SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION 800.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1300	1032600
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1300	1032600
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1301	1032610
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1302	
SO4 TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1303	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TGC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC Um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL	<input checked="" type="checkbox"/>	1304	1305
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1307	1308
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1309	
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1310	
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1311	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: R. C. Sathiyamoorthy

RECEIVED BY: R. C. Sathiyamoorthy

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN8901C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/23/92

SITE ID SPN-89-01C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0800 END 1000

PROGRAM C

WEATHER CLEAR

WATER LEVEL / WELL DATA

WELL DEPTH 123 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

247 FT

PROTECTIVE CASING/WELL DIFF.

.28 FT

WATER DEPTH 680 FT

47 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 830.04

HEIGHT OF WATER COLUMN 55 FT

236 TOTAL GAL PURGED

GROUNDWATER ELEVATION 762.04

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH - 0.1 PPM

WELL DIAMETER 2 INCH
4 INCH
1 INCH

PURGE DATA

PURGE VOLUME

8:04 @ 47 GAL 8:16 @ 94 GAL 8:28 @ 141 GAL 8:40 @ 188 GAL 8:52 @ 135 GAL

TEMP, DEG C

11.7 10.9 10.6 10.7 10.7

PH, UNITS ☐ PH PAPER

7.25 7.52 7.57 7.52 7.60

SPECIFIC CONDUCTIVITY umhos/cm

621 613 615 622 621

PUMP RATE, GPM

4

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS# AB3-2
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

827.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1156	0324601C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1156	0324601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1157	0324601C
CL TT08	YES	4 DEG C	500 ML POLY		1158	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1159	
TOS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1160	0324601C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1163	0324601C
NG 99	NO	4 DEG C	1 L AG		1165	
NAM UN06	NO	4 DEG C	1 L AG		1166	
DNT UW26	NO	4 DEG C	1 L AG		1167	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,NG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Laura E. Carter 1/6P

RECEIVED BY: J. R. R. R.

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN 89-02A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SPN-89-02A

JOB NUMBER

6853-04

SAMPLING DATE

4/29/92

LOCATION

ACTIVITY

START 1200

END 1300

PROGRAM

C

FILE NAME

CGW

WEATHER

HAZY GC

WATER LEVEL / WELL DATA

☒

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

FT

PROTECTIVE
CASING/WELL DIFF.

FT

WELL DEPTH

74

FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

67.65

FT

21

GAL/VOL

(21)

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES

NO

N/A

RISER
ELEVATION

823.67

HEIGHT OF

WATER COLUMN

12.4

FT

106

TOTAL GAL PURGED

(106)

GROUNDWATER
ELEVATION

762.02

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

12:23

12:24

12:34

12:39

12:45

12:50

PURGE VOLUME

@ 21 GAL

@ 42 GAL

@ 63 GAL

@ 84 GAL

@ 106 GAL

TEMP, DEG C

12.6

12.5

12.5

12.1

12.3

pH, UNITS

☐ pH PAPER

7.44

7.37

7.38

7.30

7.28

SPECIFIC CONDUCTIVITY umhos/cm

942

937

947

932

961

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒
☒
☒
☒
☐

☒
☒
☒
☒
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# HAZCO 1
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

820.8

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		1168	032000
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2				
NA	YES	HNO ₃ TO pH<2				
CD	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
HARD	YES	HNO ₃ TO pH<2			1165	032000
NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1169	032000
CL	YES	4 DEG C	500 ML POLY		1170	
SO ₄	YES	4 DEG C	500 ML POLY		1171	
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C	500 ML POLY			
TOC	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
VOC	NO	HCL, 4 DEG C (3)40 ML VIAL			1172	042370
BN/A	NO	4 DEG C (2) 1 L AG			1175	022000
NG	NO	4 DEG C	1 L AG		1177	
NAM	NO	4 DEG C	1 L AG		1178	
DNT	NO	4 DEG C	1 L AG		1179	
TPH	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Laura S. Carter / GP

RECEIVED BY:

Paul P. Carter

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **SPN8902B**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **SPN-89-02B**

JOB NUMBER **6853-04**

SAMPLING DATE **4.28.92**

LOCATION ACTIVITY **START 0845 END 1030**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **WINDY 50%**

WATER LEVEL / WELL DATA

WELL DEPTH **102 FT**

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.72 FT

PROTECTIVE CASING/WELL DIFF.

-1.17 FT

WATER DEPTH **61.49 FT**

41 GAL/VOL **(41)**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES ☒ NO ☐ N/A ☐

RISER ELEVATION **823.53**

HEIGHT OF WATER COLUMN **40.51 FT**

205 TOTAL GAL PURGED **(205)**

GROUNDWATER ELEVATION **762.04**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

EX. MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **0.2** PPM

WELL MOUTH **0.4** PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 41 GAL

@ 82 GAL

@ 123 GAL

@ 164 GAL

@ 205 GAL

TEMP, DEG C

10.5

10.4

10.5

10.5

10.4

pH, UNITS ☐ pH PAPER

7.6

7.5

7.5

7.5

7.6

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

567

563

569

568

568

PUMP RATE, GPM

4.4 gpm

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS# **22" 4" #**

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

820.3

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2			1180	0320000
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			1180	0320000
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1181	0320000
CL	TT08	YES	4 DEG C	500 ML POLY		1182	0320000
SO ₄	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1183	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VCC	um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1184	0320000
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		1187	0320000
NG	99	NO	4 DEG C	1 L AG		1189	0320000
NAM	UN06	NO	4 DEG C	1 L AG		1190	
DNT	UN26	NO	4 DEG C	1 L AG		1191	
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*

RECEIVED BY: *[Signature]*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN 89-02C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4-28-92

SITE ID SPN-89-02C

JOB NUMBER 6855-04

FILE NAME CGW

LOCATION ACTIVITY START 0830 END 1000

PROGRAM C

WEATHER SUNNY 50°

WATER LEVEL / WELL DATA

☒

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.42 FT

PROTECTIVE
CASING/WELL DIFF.

-1.25 FT

WELL DEPTH 131.5 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 60.61 FT

60

GAL/VOL

59.5

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER
ELEVATION 822.60

HEIGHT OF
WATER COLUMN 70.89 FT

300

TOTAL GAL PURGED

298

GROUNDWATER
ELEVATION 761.99

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.2 PPM

WELL MOUTH 0.6 PPM

WELL
DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

0347	0900	0914	0927	0941
@ 60 GAL	@ 120 GAL	@ 180 GAL	@ 240 GAL	@ 300 GAL
10.7	10.5	10.5	10.4	10.5
7.6	7.5	7.6	7.6	7.4
921	370	564	573	549
4.6 gpm				

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC CONO. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

820.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		1192	0524601C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1192	0524601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1193	0524601C
CL TT08	YES	4 DEG C	500 ML POLY		1194	0524601C
SO4 TT08	YES	4 DEG C	500 ML POLY		1195	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1196	0524601C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1199	0524601C
NG 99	NO	4 DEG C	1 L AG		1201	
NAM UN06	NO	4 DEG C	1 L AG		1202	
DNT UW26	NO	4 DEG C	1 L AG		1203	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Resampled on 4-29-92 At 1500
FOR TAL METALS (NOT PRESERVED 1ST TIME)

SIGNATURE

RECEIVED BY: [Signature]

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **SPN89038**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **4/27/92**

SITE ID **SPN-89-038**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION ACTIVITY **START 1254 END 1230**

PROGRAM **C**

WEATHER **SUNNY 40°**

WATER LEVEL / WELL DATA

WELL DEPTH 97 FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND) 3.03 FT	PROTECTIVE CASING/WELL DIFF. -1.15 FT
WATER DEPTH 55.72 FT				
HEIGHT OF WATER COLUMN 41.28 FT	38 GAL/VOL	(38)	WELL INTEGRITY: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/>	RISER ELEVATION 818.00
	190 TOTAL GAL PURGED	(190)	PROT. CASING SECURE <input checked="" type="checkbox"/>	GROUNDWATER ELEVATION 762.32
			CONCRETE COLLAR INTACT <input checked="" type="checkbox"/>	
			WELL LOCKED <input checked="" type="checkbox"/>	
			PVC WELL CAP <input checked="" type="checkbox"/>	
PURGE H ₂ O CONTAINED? <input checked="" type="checkbox"/> VOC <input type="checkbox"/> DNT <input type="checkbox"/> NO	WELL MATERIAL <input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	AMBIENT AIR 0.0 PPM	WELL MOUTH 0.0 PPM	WELL DIAMETER 2 INCH

PURGE DATA

PURGE VOLUME	1254	@ 38 GAL	@ 76 GAL	@ 114 GAL	@ 152 GAL	@ 190 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C		10.4	10.2	10.2	10.3	10.1	<input type="checkbox"/> CLEAR
PH, UNITS <input type="checkbox"/> PH PAPER		7.7	7.5	7.4	7.4	7.3	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY umhos/cm		707	559	560	557	557	<input type="checkbox"/> COLORED
PUMP RATE, GPM		4.0					<input type="checkbox"/> TURBID
							<input type="checkbox"/> ODCR
							<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING <input checked="" type="checkbox"/>	SAMPLING <input checked="" type="checkbox"/>	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
<input checked="" type="checkbox"/> PERISTALTIC PUMP	<input checked="" type="checkbox"/> SUBMERSIBLE PUMP	ISCO # 42	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE	815.1
<input checked="" type="checkbox"/> BAILER	<input checked="" type="checkbox"/> PVC/SILICON TUBING	GRUNDFOS# 42	<input checked="" type="checkbox"/> LIQUINOX	<input checked="" type="checkbox"/> FLOAT ACTIVATED	
<input checked="" type="checkbox"/> IN-LINE/DISPOSABLE FILTER	<input checked="" type="checkbox"/> OTHER		<input checked="" type="checkbox"/> STEAM CLEANING	<input checked="" type="checkbox"/> PRESSURE TRANSDUCER	

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1204	1204
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1204	1204
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1205	1205
CL TT08	YES	4 DEG C	500 ML POLY		1206	1206
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1207	1207
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1208	1208
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1211	1211
NG 99	NO	4 DEG C	1 L AG		1213	1213
NAM UN06	NO	4 DEG C	1 L AG		1214	1214
DNT UW26	NO	4 DEG C	1 L AG		1215	1215
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)
TAL METALS (CA, NA, CD, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, BA, TL, V, ZN): SS16, SD24, SB03, 99 (TL: GFAA, K/NA: ICP)
PURGE STARTED @ 1254 ON 4-27-92

SIGNATURE: *[Signature]*
RECEIVED BY: *[Signature]*

PAGE 1 OF 1

FIELD SAMPLING NUMBER

SPN 89 03 C

SITE TYPE ; WELL

SITE ID SPIN-89-03C

JOB NUMBER : 6853-04

SAMPLING DATE 4.27.92

LOCATION		
ACTIVITY	START 1400	END 1700

PROGRAM	C
---------	---

FILE NAME : CGW

WEATHER : SUNNY 50

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

3.18 F

PROTECTIVE
CASING/WELL DIFF. - 55 F

WELL DEPTH	131	FT
------------	-----	----

☒ MEASURED
☒ HISTORICAL

WATER DEPTH	55.88 FT
-------------	----------

6.0	GAL/VOL	(60)
300	TOTAL GAL PURGED	

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES	NO	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

RISER
ELEVATION 818.25

GROUNDWATER
ELEVATION 767.37

PURGE H₂O CONTAINED?
☒ VCC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.29PM

WELL DIAMETER ☒ 2 INCH
☒ 4 INCH
☐ INCH

1415	1430	1445	1460	1515
@ 60 GAL	@ 120 GAL	@ 180 GAL	@ 240 GAL	@ 300 GAL
10.4	10.3	10.5	11.5	10.6
7.4	7.3	7.5	7.3	7.4
581	579	578	574	600
480				

SAMPLE OBSERVATIONS

<input checked="" type="checkbox"/>	CLEAR
<input type="checkbox"/>	CLOUDY
<input type="checkbox"/>	COLOR _____
<input type="checkbox"/>	TURBID _____
<input type="checkbox"/>	ODOR _____
<input type="checkbox"/>	OTHER (SEE NOTES)

PURGING SAMPLING

<input type="checkbox"/>	<input type="checkbox"/>	PERISTALTIC PUMP
<input type="checkbox"/>	<input type="checkbox"/>	SUBMERSIBLE PUMP
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BAILER
<input type="checkbox"/>	<input type="checkbox"/>	PVC/SILICON TUBING
<input type="checkbox"/>	<input type="checkbox"/>	IN-LINE/DISPOSABLE
<input type="checkbox"/>	<input type="checkbox"/>	OTHER

EQUIPMENT ID

ISCO # _____
GRUNDFOS# _____
☒ 2" ☐ 4" # _____

FILTER

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

NUMBER OF FILTERS USED 1

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

815.3

PP METALS (SPECIFIED BELOW)	NUMBER	YES	METHOD	REQUIRED	COLLECTED	DATE	LOT #
TAL METALS (SPECIFIED BELOW)				1 L POLY			
CA	SS16	YES	HNO3 TO pH<2			1216	0326000
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2			1216	0326000
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1217	0528000
CL	TT08	YES	4 DEG C	500 ML POLY		1218	
SO4	TT08	YES	4 DEG C			↓	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1219	
TDS	USEPA 160.1	NO	4 DEG C			↓	
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1220	0425000
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		1223	0028000
NG	99	NO	4 DEG C	1 L AG		1225	
NAM	UN06	NO	4 DEG C	1 L AG		1226	
ONT	UW26	NO	4 DEG C	1 L AG		1227	
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
PURGE STARTED @ 1400 ON 4-27-72

SIGNATURE: G. A. Callahan

RECEIVED BY: *Karl H. Harn*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **SPN 89048**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **4/27/92**

SITE ID **SPN-89-048**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION ACTIVITY **START 08:30 END 10:30**

PROGRAM **C**

WEATHER **SCALY 50's**

WATER LEVEL / WELL DATA

WELL DEPTH **77 FT**

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.53 FT

PROTECTIVE CASING/WELL DIFF. **-0.29 FT**

WATER DEPTH **42.15 FT**

34 GAL/VOL (34)

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION **804.21**

HEIGHT OF WATER COLUMN **34.85 FT**

170 TOTAL GAL PURGED

GROUNDWATER ELEVATION **762.06**

P-SEE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **0.0 PPM**

WELL MOUTH **0.2 PPM**

WELL DIAMETER **2 INCH**
☒ 2 INCH
☐ 4 INCH

PURGE DATA

START **08:32**

PURGE VOLUME

@ 34 GAL

@ 68 GAL

@ 102 GAL

@ 136 GAL

@ 170 GAL

TEMP, DEG C

10.7

10.6

10.7

10.7

10.7

DM, UNITS ☐ DM PAPER

7.5

7.4

7.3

7.2

7.4

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

635

632

631

631

632

PUMP RATE, GPM

3.5

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GROUNDOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

801.6

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1228	030000
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1228	030000
MT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1228	030000
CL TT08	YES	4 DEG C	500 ML POLY		1230	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1231	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1232	030000
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1235	030000
NG 99	NO	4 DEG C	1 L AG		1237	
NAM UN06	NO	4 DEG C	1 L AG		1238	
DNT UW26	NO	4 DEG C	1 L AG		1239	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

PURGE END @ 10:45 ON 4-27-92
36 LIT W/ EPA

SIGNATURE: *REC. S. M. H.*

RECEIVED BY: *Kel T. W.*

* RESAMPLED ON 4/29/92 AT 1200 FOR METALS (NOT PRESERVED)

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **SPN8904C**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **SPN-89-04C**

JOB NUMBER **6853-04**

SAMPLING DATE **4-27-92**

LOCATION ACTIVITY **START 0835 END 1100**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **SUN 50°**

WATER LEVEL / WELL DATA

WELL DEPTH **109 FT.**

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) **2.00 FT**

PROTECTIVE CASING/WELL DIFF. **-.42 FT**

WATER DEPTH **41.06 FT.**

GAL/VOL **(55.3)**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION **803.17**

HEIGHT OF WATER COLUMN **67.94 FT.**

TOTAL GAL PURGED **278**

GROUNDWATER ELEVATION **762.11**

PURGE H2O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **00 PPM**

WELL MOUTH **0.2 PPM**

WELL DIAMETER **2 INCH**
☐ 4 INCH
☐ INCH

PURGE DATA

START & CHARGE

PURGE VOLUME

@ 36 GAL

@ 112 GAL

@ 168 GAL

@ 224 GAL

@ 280 GAL

TEMP, DEG C

10.7

10.4

10.2

10.4

10.4

pH, UNITS ☐ pH PAPER

7.8

7.5

7.5

7.5

7.4

SPECIFIC CONDUCTIVITY umhos/cm

165 B

164

167.0

1635

1625

PUMP RATE, GPM

4 gpm

4 gpm

4 gpm

4 gpm

4 gpm

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

800.7

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1240	032660C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1240	032660C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1241	052810C
CL TT08	YES	4 DEG C	500 ML POLY		1242	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1243	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1244	042520C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1247	022810C
NG 99	NO	4 DEG C	1 L AG		1249	
NAM UN06	NO	4 DEG C	1 L AG		1250	
DNT UW26	NO	4 DEG C	1 L AG		1251	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

PURGE END @ 955 ~ 4-27-92
SPLIT W/ EPA (DOZ FOR EPA)

SIGNATURE: *R.C. Sullivan*

RECEIVED BY: *R.C. Sullivan*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **SPN 89 05 A**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **4/24/92**

SITE ID **SPN-89-05A**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION ACTIVITY **START 0800 END 0930**

PROGRAM **C**

WEATHER **Cloudy**

WATER LEVEL / WELL DATA

<input checked="" type="checkbox"/> TOP OF WELL		<input type="checkbox"/> TOP OF CASING		PROTECTIVE CASING STICK-UP (FROM GROUND) 2.5 ± FT.		PROTECTIVE CASING/WELL DIFF. -0.21 FT.	
WELL DEPTH 55 FT.	<input type="checkbox"/> MEASURED	<input checked="" type="checkbox"/> HISTORICAL					
WATER DEPTH 41.30 FT.	23	GAL/VOL	(23)	WELL INTEGRITY:		YES	NO
HEIGHT OF WATER COLUMN 13.7 FT.	116	TOTAL GAL PURGED	(116)	PROT. CASING SECURE		<input checked="" type="checkbox"/>	<input type="checkbox"/>
				CONCRETE COLLAR INTACT		<input checked="" type="checkbox"/>	<input type="checkbox"/>
				WELL LOCKED		<input checked="" type="checkbox"/>	<input type="checkbox"/>
				PVC WELL CAP		<input checked="" type="checkbox"/>	<input type="checkbox"/>
PURGE H ₂ O CONTAINED?				WELL MATERIAL		WELL DIAMETER	
<input type="checkbox"/> VCC <input type="checkbox"/> DNT <input checked="" type="checkbox"/> NO				<input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS		<input type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH	
AMBIENT AIR 0 PPM				WELL MOUTH 0 PPM			

PURGE DATA

PURGE VOLUME	23 GAL	40 GAL	69 GAL	92 GAL	116 GAL	SAMPLE OBSERVATIONS: <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	9.6	9.9	9.9	9.8	10.1	
PH, UNITS <input type="checkbox"/> pH PAPER	7.3	7.5	7.5	7.6	7.5	
SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$	478	484	488	480	490	
PUMP RATE, GPM						

EQUIPMENT DOCUMENTATION

PURGING	SAMPLING	EQUIPMENT ID	DECON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PERISTALTIC PUMP	<input checked="" type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROB	801.6
<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUBMERSIBLE PUMP	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BAILER	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	PVC/SILICON TUBING			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	IN-LINE/DISPOSABLE FILTER			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	OTHER			
			NUMBER OF FILTERS USED	1	

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2			1252	0326000
NA	YES	HNO ₃ TO pH<2				
CD	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
HARD	YES	HNO ₃ TO pH<2			1252	0326000
NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1253	0326000
CL	YES	4 DEG C	500 ML POLY		1254	
SO ₄	YES	4 DEG C	500 ML POLY		1255	
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VCC	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1256	0326000
BN/A	NO	4 DEG C	(2) 1 L AG		1257	0326000
HG	NO	4 DEG C	1 L AG		1258	0326000
NAM	NO	4 DEG C	1 L AG		1259	
DNT	NO	4 DEG C	1 L AG		1260	
TPH	NO	H ₂ SO ₄ TO pH<2	1 L GL		1261	

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: **CK/TH**
RECEIVED BY: **Paul R. Kuttner**

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID 50005
 LOCATION ACTIVITY START 0800 END 0930

FIELD SAMPLING NUMBER 50005
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4-23-92
 FILE NAME CGW
 WEATHER Cloudy 40°

WATER LEVEL / WELL DATA

WELL DEPTH 115 FT MEASURED HISTORICAL
 WATER DEPTH 92.64 FT
 HEIGHT OF WATER COLUMN FT
 TOP OF WELL TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.2 ± FT
 PROTECTIVE CASING/WELL DIFF. 0.05 FT
 WELL INTEGRITY: PROT. CASING SECURE YES NO N/A
 CONCRETE COLLAR INTACT YES NO N/A
 WELL LOCKED YES NO N/A
 PVC WELL CAP YES NO N/A
 RISER ELEVATION 2.2 ± FT
 GROUNDWATER ELEVATION
 PURGE H₂O CONTAINED? VOC DNT NO YES
 WELL MATERIAL PVC SS
 AMBIENT AIR 0 PPM
 WELL MOUTH 0 PPM
 WELL DIAMETER 2 INCH 4 INCH INCH

PURGE DATA

PURGE VOLUME	2.33 GAL	6.6 GAL	9.9 GAL	13.2 GAL	16.6 GAL
TEMP, DEG C	10.4	10.4	10.4	10.3	10.5
pH, UNITS	7.4	7.6	7.7	7.7	7.6
SPECIFIC CONDUCTIVITY umhos/cm	443	421	421	420	421
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
 CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 EQUIPMENT ID
 ISCO #
 GRUNDFOS #
 2" 4" #
 DECON FLUIDS USED
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 WATER LEVEL EQUIP. USED
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 GROUND ELEVATION 261.0
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		10571	0326601C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		10571	0326601C
CL TT08	YES	4 DEG C	500 ML POLY		10571	0326601C
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		10571	0326601C
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
VOC um,33	NO	HCL, 4 DEG C (3)40 ML VIAL			10571	0326601C
BN/A UM16	NO	4 DEG C (2) 1 L AG			10571	0326601C
NG 99	NO	4 DEG C 1 L AG			10571	0326601C
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2 1 L GWM				

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/TH
 RECEIVED BY: Karl R. Hest

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4/25/92

LOCATION

FILE NAME

CGW

ACTIVITY

START 0930

END

1100

PROGRAM

C

WEATHER

Cloudy

WATER LEVEL / WELL DATA

WELL DEPTH

145.5 FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.45 FT

PROTECTIVE CASING/WELL DIFF.

-0.5 FT

WATER DEPTH

91.59 FT

HEIGHT OF

WATER COLUMN

770.72

49 GAL/VOL

(49)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

GROUNDWATER ELEVATION

770.72

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

2.49 GAL

2.98 GAL

2.147 GAL

2.176 GAL

2.176 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.4

11.4

11.6

11.5

11.7

245

246

241

250

246

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

770.72

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			572660
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VCC UM35	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN05	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

CK/TU

Red R

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 51117

JOB NUMBER 6853-04

SAMPLING DATE 4.11.92

LOCATION ACTIVITY START 1430 END 1600

PROGRAM C

FILE NAME CGW

WEATHER cloudy w/ 40%

WATER LEVEL / WELL DATA

WELL DEPTH 121 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.72 FT

PROTECTIVE
CASING/WELL DIFF.

- .11 FT

WATER DEPTH 94.67 FT

43

GAL/VOL

43

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER
ELEVATION

869.40

HEIGHT OF
WATER COLUMN 26.33 FT

215

TOTAL GAL PURGED

215

GROUNDWATER
ELEVATION

769.73

PURGE H₂O CONTAINED?
[X] VOC [] DNT [] NO

WELL MATERIAL
[X] PVC [] SS

AMBIENT AIR 0.7 PPM

WELL MOUTH 0.9 PPM

WELL DIAMETER
[X] 2 INCH
[] 4 INCH
[] INCH

PURGE DATA

PURGE VOLUME

243 GAL

286 GAL

2129 GAL

2172 GAL

2215 GAL

TEMP, DEG C

10.6

10.5

10.4

11.2

10.5

pH, UNITS [X] pH PAPER

6.0

6.0

6.0

6.0

6.0

SPECIFIC CONDUCTIVITY umhos/cm

600

600

600

600

600

PUMP RATE, GPM

4.3 gpm

SAMPLE OBSERVATIONS

[X] CLEAR
[] CLOUDY
[] COLORED
[] TURBID
[] ODOR
[] OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

869.40

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

PARAMETER	METHOD	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	S803	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC	USEPA 821.1	NO	HCL, 4 DEG C (3)40 ML VIAL				
BA/A	UM16	NO	4 DEG C (2) 1 L AG				
NG	99	NO	4 DEG C 1 L AG				
NAM	UN06	NO	4 DEG C 1 L AG				
DNT	UN26	NO	4 DEG C 1 L AG				
TPH	USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: Nancy E. Rofa

$$\begin{aligned} \text{BOW} &= \underline{11.1} \text{ ft.} \\ \text{Depth to H}_2\text{O} &= \underline{11.1} \text{ ft.} \\ \text{Height of H}_2\text{O column} &= \underline{11.1} \text{ ft.} \\ &= \textcircled{a} \end{aligned}$$

$$\begin{aligned} \text{Bottom of screen} &= \underline{\quad} \text{ ft.} \\ \text{Top of screen} &= \underline{\quad} \text{ ft.} \\ \text{Length of screen} &= \underline{\quad} \text{ ft.} \\ &= \textcircled{b} \end{aligned}$$

$$\begin{aligned} \text{Bottom of sandpack} &= \underline{\quad} \text{ ft.} \\ \text{Top of sandpack} &= \underline{\quad} \text{ ft.} \\ \text{Height of sandpack} &= \underline{\quad} \text{ ft.} \\ &= \textcircled{c} \end{aligned}$$

$$\begin{aligned} \text{OD well} &= .35 \text{ ft.} \\ \text{OR well} &= .175 \text{ ft.} \end{aligned}$$

$$\begin{aligned} \text{ID well} &= .33 \text{ ft.} \\ \text{IR well} &= .167 \text{ ft.} \end{aligned}$$

$$\begin{aligned} 10'' \text{ borehole} &= .833 \text{ ft. } d \\ &= .416 \text{ ft. } r \end{aligned}$$

$$\text{volume of } \text{cylinder} = \pi r^2 h$$

$$\begin{aligned} \text{volume of well inside sand} &= \pi (.175 \text{ ft.})^2 (\underline{26} \text{ ft.}) \\ &= \text{cylinder } \textcircled{d} \\ &= \boxed{2.16 \text{ ft}^3} \end{aligned}$$

$$\begin{aligned} \text{volume of saturated borehole} &= \pi (.416 \text{ ft.})^2 (\underline{26} \text{ ft.}) \\ &= \text{cylinder } \textcircled{e} \\ &= \boxed{14.1 \text{ ft}^3} \end{aligned}$$

$$\text{area of annulus} = \left(\begin{array}{c} \text{volume} \\ \text{saturated} \\ \text{borehole} \end{array} - \begin{array}{c} \text{volume} \\ \text{well} \\ \text{inside sand} \end{array} \right) = \underline{11.1} \text{ ft}^3 - \underline{2.16} \text{ ft}^3 = \underline{8.94}$$

$$\left(\underline{11.1} \text{ ft}^3 \right) \left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right) (.3 \text{ porosity}) = \left(\underline{26.69} \text{ gal/vol in annulus} \right) (5) = \underline{133.4} \text{ gal total from annulus}$$

$$\begin{aligned} \text{volume of saturated well} &= \pi (.167 \text{ ft.})^2 (\underline{26} \text{ ft.}) \\ &= \text{cylinder } \textcircled{a} \\ &= \boxed{2.28 \text{ ft}^3} \end{aligned}$$

$$\left(\underline{2.28} \text{ ft}^3 \right) \left(\frac{7.48 \text{ gal}}{\text{ft}^3} \right) = \left(\underline{17.03} \text{ gal/volume in well} \right) (5) = \underline{85.15} \text{ gal total from well}$$

$$\underline{133.4} \text{ gal total from annulus} + \underline{85.15} \text{ gal total from well} = \underline{218.5} \text{ gal total to purge}$$

Location: _____

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT: USATHAMA-BAAP
 SITE ID: [] [] [] [] [] [] [] [] [] [] [] []
 LOCATION: START 0800 END 0930

FIELD SAMPLING NUMBER: [] [] [] [] [] [] [] [] [] [] [] []
 SITE TYPE: WELL
 JOB NUMBER: 6853-04
 PROGRAM: C

SAMPLING DATE: 4/22/92
 FILE NAME: CGW
 WEATHER: [] [] [] [] [] [] [] [] [] [] [] []

WATER LEVEL / WELL DATA

WELL DEPTH: 111 FT
 WATER DEPTH: 101.36 FT
 HEIGHT OF WATER COLUMN: 10 FT
 MEASURED [] HISTORICAL []
 TOP OF WELL [] TOP OF CASING []
 PROTECTIVE CASING STICK-UP (FROM GROUND): 2 FT
 PROTECTIVE CASING/WELL DIFF.: 1 FT
 WELL INTEGRITY: YES [] NO [] N/A []
 PROT. CASING SECURE []
 CONCRETE COLLAR INTACT []
 WELL LOCKED []
 PVC WELL CAP []
 GAL/VOL: 17
 TOTAL GAL PURGED: 84
 RISER ELEVATION: 774.49
 GROUNDWATER ELEVATION: 773.63
 WELL DIAMETER: 2 INCH
 PURGE H₂O CONTAINED? [] VOC [] DNT [] NO []
 WELL MATERIAL: [] PVC [] SS []
 AMBIENT AIR [] PPM []
 WELL MOUTH [] PPM []

PURGE DATA

PURGE VOLUME	2.17 GAL	2.34 GAL	2.51 GAL	2.65 GAL	2.84 GAL
TEMP, DEG C	11.4	10.8	11.1	10.7	11.0
pH, UNITS	7.2	7.6	7.7	7.2	7.7
SPECIFIC CONDUCTIVITY umhos/cm	393	576	575	572	578
PUMP RATE, GPM					

SAMPLE OBSERVATIONS:
 CLEAR []
 CLOUDY []
 COLORED []
 TURBID []
 ODOOR []
 OTHER (SEE NOTES) []

EQUIPMENT DOCUMENTATION

PURGING [] SAMPLING []
 PERISTALTIC PUMP []
 SUBMERSIBLE PUMP []
 BAILER []
 PVC/SILICON TUBING []
 IN-LINE/DISPOSABLE FILTER []
 OTHER []
 EQUIPMENT ID: ISCO # []
 GROUNDWATER # []
 2" [] 4" []
 DECON FLUIDS USED: []
 POTABLE WATER []
 LIQUINOX []
 STEAM CLEANING []
 WATER LEVEL EQUIP. USED: []
 ELECTRIC COND. PROBE []
 FLOAT ACTIVATED []
 PRESSURE TRANSDUCER []
 GROUND ELEVATION: 872.5
 NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TFH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

OTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/T14
 RECEIVED BY: []

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT: USATHAMA-BAAP
 SITE ID: 5111111111111111
 LOCATION ACTIVITY: START 1530 END 1630

FIELD SAMPLING NUMBER: 1111111111111111
 SITE TYPE: WELL
 JOB NUMBER: 6853-04
 PROGRAM: C

SAMPLING DATE: 4/21/92
 FILE NAME: CGW
 WEATHER: 10/14/92

WATER LEVEL / WELL DATA

WELL DEPTH: 102 FT
 WATER DEPTH: 104.30 FT
 HEIGHT OF WATER COLUMN: 17.7 FT
 MEASURED
 HISTORICAL
 TOP OF WELL
 TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND): 1.75 FT
 PROTECTIVE CASING/WELL DIFF.: 80 FT
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 PVC WELL CAP
 RISER ELEVATION: 771.09
 GROUNDWATER ELEVATION: 775.39
 PURGE H₂O CONTAINED? VOC DNT NO
 WELL MATERIAL: PVC SS
 AMBIENT AIR: C PPM
 WELL MOUTH: / PPM
 WELL DIAMETER: 2 INCH 4 INCH 1 INCH

PURGE DATA

PURGE VOLUME	2 GAL	5 GAL	10 GAL	15 GAL	20 GAL
TEMP, DEG C	10.0	10.6	10.6	10.0	10.0
pH, UNITS	7.6	7.6	7.6	7.6	7.6
SPECIFIC CONDUCTIVITY umhos/cm	544	524	574	564	570
PUMP RATE, GPM					

SAMPLE OBSERVATIONS: CLEAR CLOUDY COLORED TURBID OOCR OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING: PERISTALTIC PUMP ISCO # SUBMERSIBLE PUMP GRUNDFOS # BAILER 2" 4" # PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER
 SAMPLING: EQUIPMENT ID
 DECON FLUIDS USED: POTABLE WATER LIQUINOX STEAM CLEANING
 WATER LEVEL EQUIP. USED: ELECTRIC COND. PROBE FLOAT ACTIVATED PRESSURE TRANSDUCER
 GROUND ELEVATION: 871.4
 NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/TH
 RECEIVED BY: Paul P. Smith

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER

SAMPLING DATE 4/22/92

LOCATION

PROGRAM

FILE NAME

ACTIVITY

START 1000 END 1130

WEATHER

Cloudy, 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.5 ± FT

PROTECTIVE CASING/WELL DIFF.

- .2 FT

WELL DEPTH 136 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 105.78 FT

33

GAL/VOL

33

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

874.7

HEIGHT OF WATER COLUMN 20.22 FT

167

TOTAL GAL PURGED

167

GROUNDWATER ELEVATION

773.98

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME	233 GAL	66 GAL	271 GAL	132 GAL	167 GAL
TEMP, DEG C	10.1	10.7	11.0	10.8	10.9
pH, UNITS <input type="checkbox"/> pH PAPER	7.6	7.6	7.7	7.6	7.7
SPECIFIC CONDUCTIVITY umhos/cm	522	490	492	484	488
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

877.6

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2				
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				032200C
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
PA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				072600C
NIT	TF10	YES	H2SO ₄ TO pH<2	500 ML POLY			0528107C
CL	TT08	YES	4 DEG C	500 ML POLY			
SO ₄	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TCC	USEPA 415.1	NO	H2SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N	USEPA 350.2	NO	H2SO ₄ TO pH<2 500 ML POLY				0628107C
VOC	USEPA 8160	NO	HCL, 4 DEG C (3)40 ML VIAL				0428107C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			0228107C
NG	99	NO	4 DEG C	1 L AG			
NAM	UM06	NO	4 DEG C	1 L AG			
DNT	UM26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

CK/TH
Paul J. Smith

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4/13/92

LOCATION

ACTIVITY START 1530 END 1630

PROGRAM

FILE NAME CGW

WEATHER CLOUDY 30°

WATER LEVEL / WELL DATA

WELL DEPTH 6.1 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.0 ± FT

PROTECTIVE
CASING/WELL DIFF.

-0.54

WATER DEPTH 40.23 FT

35 GAL/VOL (35)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER
ELEVATION

515.45

HEIGHT OF
WATER COLUMN 21 FT

175 TOTAL GAL PURGED (175)

GROUNDWATER
ELEVATION

775.20

PURGE H₂O CONTAINED?
VCC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL
DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 35 GAL

@ 70 GAL

@ 105 GAL

@ 140 GAL

@ 175 GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.1

10.4

10.4

10.5

10.2

7.9

7.8

7.8

7.8

7.8

636

610

660

677

626

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS #
2" 4" #

POTABLE WATER
LIQUINOX
STEAM CLEANING

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

815.9

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				10324601C
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				10324601C
NI T10	YES	H2SO ₄ TO pH<2	500 ML POLY			10563101C
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H2SO ₄ TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			0425301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG			0225101C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,X,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: VmJLK

RECEIVED BY: Nancy E. R.

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT: USATHAMA-BAAP

SITE TYPE: WELL

SITE ID

JOB NUMBER: 6853-04

SAMPLING DATE: 4.12.92

LOCATION

PROGRAM: C

FILE NAME: CGW

ACTIVITY

START 1100 END 1200

WEATHER: Sunny, 40's

WATER LEVEL / WELL DATA

WELL DEPTH: 144 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.2 FT

PROTECTIVE CASING/WELL DIFF.

.61 FT

WATER DEPTH: 130.05 FT

25 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION: 907.16

HEIGHT OF WATER COLUMN: 16 FT

125 TOTAL GAL PURGED

GROUNDWATER ELEVATION: 777.11

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME	@ 25 GAL	@ 50 GAL	@ 75 GAL	@ 100 GAL	@ 125 GAL
TEMP, DEG C	11.3	12.1	12.1	12.1	12.4
PH, UNITS <input type="checkbox"/> pH PAPER	7.2	7.0	7.0	7.1	7.1
SPECIFIC CONDUCTIVITY umhos/cm	390	395	390	387	386
PUMP RATE, GPM	2.8				

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS # 2
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

404.8

NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		878	032601C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: J. P. [Signature]
RECEIVED BY: Nancy E. Rota

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

11123

JOB NUMBER

6853-04

SAMPLING DATE

7/14/92

LOCATION

ACTIVITY

START 1230

END 1500

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.8 ± FT

PROTECTIVE CASING/WELL DIFF.

- .05 FT

WELL DEPTH

170 FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH

89.67 FT

59 GAL/VOL

(59)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

768.71

GROUNDWATER ELEVATION

779.12

HEIGHT OF

WATER COLUMN

146 FT

296

TOTAL GAL PURGED

(296)

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

59 GAL

118 GAL

177 GAL

236 GAL

296 GAL

TEMP, DEG C

10.7

10.5

10.5

10.6

10.5

pH, UNITS ☐ pH PAPER

7.9

7.7

7.5

7.7

7.7

SPECIFIC CONDUCTIVITY umhos/cm

570

566

566

563

563

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

☒ ISCO #
☒ GRUNDFOS #
☐ 2" ☐ 4" #

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS #
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

767.6

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
PA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				
NIT	TF10	H2SO ₄ TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO ₄	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	USEPA 350.2	H2SO ₄ TO pH<2	500 ML POLY			
VOC	USEPA 8160	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AG			
NG	99	4 DEG C	1 L AC			
NAM	UN06	4 DEG C	1 L AG			
DNT	UN26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Vm/ck

RECEIVED BY:

William E. Rober

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4/14/92

LOCATION

ACTIVITY START 0930 END 1030

PROGRAM C

FILE NAME CGW

WEATHER CLOUDY 30.

WATER LEVEL / WELL DATA

WELL DEPTH 103.41 FT

WATER DEPTH 103.41 FT

HEIGHT OF WATER COLUMN 27.5 FT

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1.7± FT

PROTECTIVE CASING/WELL DIFF. -1.10 FT

☒ MEASURED
☐ HISTORICAL

46.5 GAL/VOL 46.5

30-35 TOTAL GAL PURGED 33

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

RISER ELEVATION

GROUNDWATER ELEVATION 776.42

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Purged dry after ~ 30-35 gal. Let recharge ~ 10 min. then sampled

SIGNATURE: VM/CLK

RECEIVED BY: W. Nancy E. Porto

ONLY MANAGED TWO VOLUMES
LAST ROUND ~ 20 min RECHARGE

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE

LOCATION

PROGRAM C

FILE NAME

ACTIVITY

WEATHER

START 1445 END 1530

4.14.92

CGW

cloudy, 30's

WATER LEVEL / WELL DATA

WELL DEPTH

28 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

3.35 FT

PROTECTIVE
CASING/WELL DIFF.

2.4 FT

WATER DEPTH

121.07 FT

15 GAL/VOL

(15)

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []

RISER
ELEVATION

577.77

GROUNDWATER
ELEVATION

774.65

HEIGHT OF

WATER COLUMN

7 FT

25

TOTAL GAL PURGED

(75)

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR - PPM

WELL MOUTH - PPM

WELL
DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 15 GAL

@ 30 GAL

@ 45 GAL

@ 60 GAL

@ 75 GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.4

7.87

423

3.2

10.7

7.73

421

3.2

10.1

7.63

421

3.2

10.7

7.65

420

3.2

10.7

7.67

421

3.2

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

[X]

[X]

[X]

[X]

[X]

[X]

[X]

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PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

574.4

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/15/92

SITE ID

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0930 END 1100

PROGRAM C

WEATHER rain, 40°s

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

0.25 FT

PROTECTIVE CASING/WELL DIFF. -0.2 FT

WELL DEPTH 11.3 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 91.82 FT

40 GAL/VOL 40

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 87.95

HEIGHT OF WATER COLUMN 24 FT

TOTAL GAL PURGED 199

GROUNDWATER ELEVATION 785.13

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME	40 GAL	80 GAL	120 GAL	160 GAL	200 GAL
TEMP, DEG C	11.1	11.5	11.5	11.6	11.6
pH, UNITS <input type="checkbox"/> pH PAPER	7.5	7.4	7.4	7.4	7.4
SPECIFIC CONDUCTIVITY umhos/cm	629	636	639	641	637
PUMP RATE, GPM					

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

SUBMERSIBLE PUMP

ISCO #

POTABLE WATER

ELECTRIC COND. PROBE

874.7

BAILER

GRUNDFOS#

LIQUINOX

FLOAT ACTIVATED

PVC/SILICON TUBING

2" 4" #

STEAM CLEANING

PRESSURE TRANSDUCER

IN-LINE/DISPOSABLE FILTER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				10326001C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				10326001C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				10326001C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			10326001C
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC Um33	NO	HCL, 4 DEG C (3)40 ML VIAL				10428701C
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: VM/CK

RECEIVED BY: KIMBERLY E. ROTA

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 511127

JOB NUMBER 6853-04

SAMPLING DATE 4.13.92

LOCATION ACTIVITY START 0945 END 1115

PROGRAM C

FILE NAME CGW

WEATHER cloudy, 30's

WATER LEVEL / WELL DATA

WELL DEPTH 77 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.1 FT

PROTECTIVE CASING/WELL DIFF. .05 FT

WATER DEPTH 50.93 FT

HEIGHT OF WATER COLUMN 27 FT

50 GAL/VOL 49
250 TOTAL GAL PURGED 22

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION
GROUNDWATER ELEVATION 829.52

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME	@ 50 GAL	@ 100 GAL	@ 150 GAL	@ 200 GAL	@ 250 GAL
TEMP, DEG C	9.6	10.5	10.6	10.6	10.6
pH, UNITS <input type="checkbox"/> pH PAPER	7.97	7.79	8.0	8.02	8.0
SPECIFIC CONDUCTIVITY umhos/cm	190	172	175	192	199
PUMP RATE, GPM	40				

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OCCUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS# X
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION 829.52

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CA	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> NA	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CD	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CR	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> HG	SB03	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> PB	SD24	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> NI	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> BA	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
<input type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input type="checkbox"/> SO ₄	TT08	YES	4 DEG C				
<input type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input type="checkbox"/> TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
<input type="checkbox"/> NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
<input type="checkbox"/> VOC	Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
<input type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
<input type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input type="checkbox"/> DNT	UW26	NO	4 DEG C	1 L AG			
<input type="checkbox"/> TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GEAA, K/NA:ICP)

SIGNATURE: J. Bonner/D
RECEIVED BY: Nancy E. Ro

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

5111281

PROJECT USATHAMA-SAAP

SITE TYPE

WELL

SITE ID

5111281

JOB NUMBER

6853-G

SAMPLING DATE

4.13.92

LOCATION

ACTIVITY

START 0800 END 0930

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30°S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.2 FT

PROTECTIVE
CASING/WELL DIFF.

.02 FT

WELL DEPTH

77 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

71.88 FT

50 GAL/VOL

53

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER
ELEVATION

837.51

GROUNDWATER
ELEVATION

837.43

HEIGHT OF
WATER COLUMN

36 FT

250

TOTAL GAL PURGED

250

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☒ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 50 GAL

@ 100 GAL

@ 150 GAL

@ 200 GAL

@ 250 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.5

5.2

205

4.0

10.3

2.5

203

10.6

2.6

303

10.6

7.7

205

7.0

8.0

202

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒

☐

☐

☐

☐

☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

287.2

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SC4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TP- USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

W. J. Sammons / DL
W. J. Sammons / DL

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4.9.92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY

START 0800 END 1030

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH 120 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.1 FT

PROTECTIVE CASING/WELL DIFF. - FT

WATER DEPTH 76.34 FT

HEIGHT OF WATER COLUMN 44 FT

60 GAL/VOL 50
300 TOTAL GAL PURGED 290

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 413.12
GROUNDWATER ELEVATION 836.72

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH
1 INCH
1 INCH

PURGE DATA

PURGE VOLUME	260 GAL	210 GAL	180 GAL	240 GAL	300 GAL
TEMP, DEG C	9.9	9.9	9.9	10.0	10.0
pH, UNITS <input type="checkbox"/> pH PAPER	7.4	7.8	7.7	7.7	7.7
SPECIFIC CONDUCTIVITY umhos/cm	543	552	553	554	560
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOUR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDESS# X
☒ 2" ☐ 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION 910.9

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: J. R. Rasmussen / DL

RECEIVED BY: William E. Rasmussen

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

PROJECT: USATHAMA-BAAP
 SITE ID: 91130
 LOCATION ACTIVITY: START 0900 END 0945

FIELD SAMPLING NUMBER: 51150
 SITE TYPE: WELL
 JOB NUMBER: 6853-04
 PROGRAM: C

SAMPLING DATE: 4.8.92
 FILE NAME: CGW
 WEATHER: Sunny, 50's

WATER LEVEL / WELL DATA

WELL DEPTH: 126 FT
 WATER DEPTH: 105.00 FT
 HEIGHT OF WATER COLUMN: 21 FT
 MEASURED: ☒ TOP OF WELL
 HISTORICAL: ☐ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND): 3.7 FT
 PROTECTIVE CASING/WELL DIFF.: 1.5 FT
 WELL INTEGRITY: YES ☒ NO ☐ N/A ☐
 PROT. CASING SECURE: ☒
 CONCRETE COLLAR INTACT: ☒
 WELL LOCKED: ☒
 PVC WELL CAP: ☒
 RISER ELEVATION: 777.17
 GROUNDWATER ELEVATION: 836.18
 PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO ☒ PVC ☐ SS
 WELL MATERIAL: ☒ PVC ☐ SS
 AMBIENT AIR: 0.0 PPM
 WELL MOUTH: 2.0 PPM
 WELL DIAMETER: ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH

PURGE DATA

PURGE VOLUME	2 40 GAL	2 GAL	2 GAL	2 GAL	2 GAL	SAMPLE OBSERVATIONS <input type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	10.6					
PH, UNITS <input type="checkbox"/> PH PAPER	5.2					
SPECIFIC CONDUCTIVITY umhos/cm	257					
PUMP RATE, GPM	3					

EQUIPMENT DOCUMENTATION

PURGING: ☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER
 EQUIPMENT ID: ISCO #
 GROUND ELEVATION: 931.2
 DECON FLUIDS USED: ☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED: ☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED: 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				0222801C
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				0222801C
NIT	TF10	H ₂ SO ₄ TO pH<2	500 ML POLY			02228010
CL	TT08	4 DEG C	500 ML POLY			
SO ₄	TT08	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	USEPA 350.2	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	UM17	HCL, 4 DEG C	(3) 40 ML VIAL			0212301C
BN/A	UM16	4 DEG C	(2) 1 L AG			0223101C
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UW26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H ₂ SO ₄ TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
 Labeled on well 1131 well ran dry at 30 gallons. Let recharge pump out 10 more gallons for one volume then sampled.
 SIGNATURE: J. P. Samuels
 RECEIVED BY: W. Nancy E. Rofka

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4/8/92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY

START 1000 END 1045

WEATHER Sunny, 50's

WATER LEVEL / WELL DATA

WELL DEPTH 156 FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1.9 FT

PROTECTIVE CASING/WELL DIFF. 1.45 FT

WATER DEPTH 101.47 FT

HEIGHT OF WATER COLUMN 155 FT

50 GAL/VOL 50 TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

GROUNDWATER ELEVATION 84070

PURGE H₂O CONTAINED?
☐ VCC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR ☐ PPM

WELL MOUTH ☐ PPM

WELL DIAMETER ☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

2 50 GAL

2 GAL

2 GAL

2 GAL

2 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.3

7.0

356

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

☐ ISCO #
☐ GROUNDWATER #
☐ 2" ☐ 4" #

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

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ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
Well can dry at 50 gallons. Let recharge
then sampled. Plus recharge took 1 hr
to recharge. ~~WELL~~ label on well. S1130 RECEIVED BY: J. Yamani E. Rote

SIGNATURE: J. Yamani E. Rote

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT: USATHAMA-BAAP

FIELD SAMPLING NUMBER

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

28 APR 92

LOCATION

ACTIVITY

START

END

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny 50°

WATER LEVEL / WELL DATA

WELL DEPTH 140 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.39 FT
1.24

PROTECTIVE CASING/WELL DIFF.

1.05 FT

WATER DEPTH 149.68 FT

GAL/VOL 27

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

ELEVATION

921.81

HEIGHT OF WATER COLUMN 143.82 FT

5

TOTAL GAL PURGED

GROUNDWATER ELEVATION

777.49

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 5 GAL

@ GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

13.8

7.3

1200

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOSS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	SS16	HNO ₃ TO pH<2				
NA	SS16	HNO ₃ TO pH<2				
CD	SS16	HNO ₃ TO pH<2				
CR	SS16	HNO ₃ TO pH<2				
HG	SB03	HNO ₃ TO pH<2				
PB	SD24	HNO ₃ TO pH<2				
NI	SS16	HNO ₃ TO pH<2				
BA	SS16	HNO ₃ TO pH<2				
HARD	USEPA 130.2	HNO ₃ TO pH<2				
NIT	TF10	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO4	TT08	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	H2SO4 TO pH<2	500 ML POLY			
VOC	UM33	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM16	4 DEG C	(2) 1 L AG			
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UW26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

very slow technique

SIGNATURE:

RECEIVED BY:

ABB ENVIRONMENTAL SERVICES, INC.

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4.12.92

LOCATION

ACTIVITY

START 0700

END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny windy

WATER LEVEL / WELL DATA

WELL DEPTH

41 FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.90

PROTECTIVE CASING/WELL DIFF.

FLUSH

WATER DEPTH

89.19 FT

1.5

GAL/VOL

1.0

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

858.68

GROUNDWATER

ELEVATION

769.49

PURGE H2O CONTAINED?

☐ VOC

☐ DNT

☐ NO

WELL MATERIAL

☐ PVC

☐ SS

AMBIENT AIR 0.7 PPM

WELL MOUTH 1.0 PPM

WELL

DIAMETER

☒ 2 INCH

☐ 4 INCH

☐ INCH

PURGE DATA

PURGE VOLUME

@ 1.5 GAL

@ GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

PH, UNITS

☒ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

1.0

0.0

512

SAMPLE OBSERVATIONS

☐ CLEAR 1" PAINTER

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

2

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SC4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VCC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW25	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

BAILED 1/2 VOLUME AND LET REMAIN OVERNIGHT
ANALYZED @ 1000 ON 4-12-92

SIGNATURE:

RECEIVED BY:

REC 5/16/92

Nancy F. R...

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/25/12

SITE ID

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY

START 4/24/12 END 4/25/12 30

PROGRAM C

WEATHER Rain 45

WATER LEVEL / WELL DATA

WELL DEPTH 51.72 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.1 ± FT

PROTECTIVE CASING/WELL DIFF.

- 10 FT

WATER DEPTH 51.72 FT

8.5 GAL/VOL (8.5)
6.25 TOTAL GAL PURGED (42)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER ELEVATION

515.50

GROUNDWATER ELEVATION

261.26

HEIGHT OF WATER COLUMN 5.3 FT

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER
2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

3 GAL 1 GAL 1 GAL 1 GAL 0.25 GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.8	9.6	9.6	9.8	9.6
6.8	7.45	7.35	7.42	7.41
685	696	705	712	704

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #488#2
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

510.2

NUMBER OF FILTERS USED 2

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	[X]	1456	022601C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		[X]		
CA SS16	YES	HNO3 TO pH<2		[X]		
NA SS16	YES	HNO3 TO pH<2		[X]		
CD SS16	YES	HNO3 TO pH<2		[X]		
CR SS16	YES	HNO3 TO pH<2		[X]		
HG SB03	YES	HNO3 TO pH<2		[X]		
PB SD24	YES	HNO3 TO pH<2		[X]		
NI SS16	YES	HNO3 TO pH<2		[X]		
BA SS16	YES	HNO3 TO pH<2		[X]		
HARD USEPA 130.2	YES	HNO3 TO pH<2		[X]	1456	022601C
MIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	[X]	1457	022601C
CL TT08	YES	4 DEG C	500 ML POLY	[X]	1458	
SO4 TT08	YES	4 DEG C		[X]		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	[X]	1459	
TDS USEPA 160.1	NO	4 DEG C		[X]		
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	[X]		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	[X]		
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL	[X]	1460	042310C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	[X]	1461	022310C
NG 99	NO	4 DEG C	1 L AG	[X]		
NAM UN06	NO	4 DEG C	1 L AG	[X]		
DNT UW26	NO	4 DEG C	1 L AG	[X]		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	[X]		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

PURGED ON 4/24 AND 4/25 SAMPLED ON 4/25

SIGNATURE:

RECEIVED BY:

CK ITH 4/24/12
[Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER

SAMPLING DATE

LOCATION

PROGRAM

FILE NAME

ACTIVITY

WEATHER

WATER LEVEL / WELL DATA

WELL DEPTH

WATER DEPTH

HEIGHT OF

WATER COLUMN

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

PROTECTIVE
CASING/WELL DIFF.

RISER
ELEVATION

GROUNDWATER
ELEVATION

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL
DIAMETER 2 INCH
2 INCH
INCH

PURGE DATA

PURGE VOLUME

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLLOIDAL
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

ISCO #
GRUNDFOS# ABB #2
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 2

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
CL T108	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
SO ₄ TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>		
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* AFTER ~ 20 GALLONS THE PUMP STARTED PUMPING
ALMOST PURE SAND, WHEN THE PUMP WAS SHUT OFF
IT FROZE UP (4/24)

SIGNATURE: CK/T11

RECEIVED BY: K.P. [Signature]

* AFTER 30 GAL PUMP FROZE UP (4/25)

* SAMPLED ON 4/25

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

SITE ID

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

28 APR 91

LOCATION

ACTIVITY

START 0800

END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny

WATER LEVEL / WELL DATA

WELL DEPTH

140

FT

MEASURED

HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.69

FT

PROTECTIVE
CASING/WELL DIFF.

-0.11

WATER DEPTH

130.86

FT

15

GAL/VOL

15

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

968.00

GROUNDWATER

ELEVATION

777.14

HEIGHT OF

WATER COLUMN

9.14

FT

75

TOTAL GAL PURGED

15

PURGE H₂O CONTAINED?

VOC

DNT

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

NO

WELL MATERIAL

AMBIENT AIR

00

PPM

WELL MOUTH

0.0

PPM

WELL

DIAMETER

2 INCH

4 INCH

INCH

PURGE DATA

PURGE VOLUME

15 GAL

30 GAL

45 GAL

60 GAL

75 GAL

TEMP, DEG C

11.1

11.4

11.4

11.5

11.5

pH, UNITS

7.3

7.3

7.3

7.3

7.3

SPECIFIC CONDUCTIVITY umhos/cm

561

612

622

624

627

PUMP RATE, GPM

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

965.2

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

END PURGING at 0915

SIGNATURE:

RECEIVED BY:

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4/26/92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 0800

END 1000

WEATHER

RAIN 40%

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.65 FT

PROTECTIVE CASING/WELL DIFF.

-0.35 FT

WELL DEPTH

73 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

54.70 FT

48 GAL/VOL

(47.5)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES
☒
NO
☐
N/A
☐

RISER ELEVATION

517.14

HEIGHT OF WATER COLUMN

18.30 FT

2.10

TOTAL GAL PURGED (238)

GROUNDWATER ELEVATION

762.44

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

@ 48 GAL

@ 96 GAL

@ 144 GAL

@ 192 GAL

@ 240 GAL

TEMP, DEG C

9.7

9.5

9.5

9.5

9.5

pH, UNITS ☐ pH PAPER

7.2

7.6

7.6

7.6

7.6

SPECIFIC CONDUCTIVITY umhos/cm

648

644

653

648

648

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS#
2" 4" #

POTABLE WATER
LIQUINOX
STEAM CLEANING

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

~ 815.0

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2			1420	032660C
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1420	032660C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1421	032660C
CL TT08	YES	4 DEG C	500 ML POLY		1422	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1423	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
VOC UM33	NO	HCL, 4 DEG C (3)40 ML VIAL			1424	032660C
BN/A UM16	NO	4 DEG C (2) 1 L AG			1425	032660C
NG 99	NO	4 DEG C 1 L AG			1426	
NAM UN06	NO	4 DEG C 1 L AG			1427	
DNT UW26	NO	4 DEG C 1 L AG			1428	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2 1 L GWM			1429	

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, S, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4/24/92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY

START 1330 END 1500

WEATHER RAIN 45°F

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

PROTECTIVE CASING/WELL DIFF. -0.03 FT

WELL DEPTH 59 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 41.52 FT

28 GAL/VOL (28)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 60.69

HEIGHT OF WATER COLUMN 17.48 FT

141 TOTAL GAL PURGED

GROUNDWATER ELEVATION 762.08

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

227 GAL 256 GAL 284 GAL 212 GAL 214 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.1	10.2	10.4	10.2	10.4
7.4	7.4	7.4	7.4	7.4
773	763	751	751	751

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS #
4" 4" #

POTABLE WATER
LIQUINOX
STEAM CLEANING

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

~799.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1426	032608
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1426	032601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1426	0528101C
CL TT08	YES	4 DEG C	500 ML POLY		1426	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1426	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1426	0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1426	022701C
NG 99	NO	4 DEG C	1 L AG		1426	
NAH UN06	NO	4 DEG C	1 L AG		1426	
DNT UW26	NO	4 DEG C	1 L AG		1426	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		1426	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4.25.92

LOCATION

ACTIVITY

START 1400

END

1530

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY 40%

WATER LEVEL / WELL DATA

WELL DEPTH

63 FT

WATER DEPTH

44.65 FT

HEIGHT OF

WATER COLUMN

18.4 FT

☐ TOP OF WELL
☒ TOP OF CASING

☐ MEASURED
☒ HISTORICAL

30

GAL/VOL

30

150

TOTAL GAL PURGED

150

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.2 FT

PROTECTIVE CASING/WELL DIFF.

0.1 FT

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

RISER ELEVATION

262.99

GROUNDWATER ELEVATION

262.99

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☒ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 30 GAL

@ 60 GAL

@ 90 GAL

@ 120 GAL

@ 150 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.0

9.7

9.6

9.8

9.7

7.34

7.83

7.76

7.72

7.74

590

591

582

587

589

540.4

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS# 188#2
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

~ 50.0

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC um33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN05	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PS, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

James S. Carter

RECEIVED BY:

Robert E. Harte

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4.14.92

LOCATION

ACTIVITY

START 1545 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30°

WATER LEVEL / WELL DATA

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

19 FT

PROTECTIVE CASING/WELL DIFF.

05 FT

WELL DEPTH

130 FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH

120.83 FT

19 GAL/VOL

15

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

877.50

HEIGHT OF WATER COLUMN

9 FT

75 TOTAL GAL PURGED

75

GROUNDWATER ELEVATION

776.67

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

15 GAL

30 GAL

45 GAL

60 GAL

75 GAL

TEMP, DEG C

PH, UNITS

☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.0

10.6

10.6

10.6

10.7

2.9

2.4

2.4

2.4

2.4

506

505

506

508

506

2.8

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒
☐
☐
☐
☐
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

893.1

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2				
NA	YES	HNO ₃ TO pH<2				
CD	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
HARD	YES	HNO ₃ TO pH<2				
NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO ₄	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TCC	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL				
NH ₃ N ₂	NO	H ₂ SO ₄ TO pH<2 500 ML POLY				
VOC	NO	NCL, 4 DEG C (3)40 ML VIAL				
BN/A	NO	4 DEG C (2) 1 L AG				
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

OTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: J. R. Rasmussen / DL

RECEIVED BY: Nancy E. Rota

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PAGE _____ OF _____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4-8-92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY START 1030 END 1100

WEATHER Sunny, 50's

WATER LEVEL / WELL DATA

WELL DEPTH 134 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.85 FT

PROTECTIVE CASING/WELL DIFF. -12 FT

WATER DEPTH 115.40 FT

31 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

HEIGHT OF WATER COLUMN 18.5 FT

157 TOTAL GAL PURGED

GROUNDWATER ELEVATION

PURGE H₂O CONTAINED?
☐ VCC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH
1 1/2 INCH
1 INCH

PURGE DATA

PURGE VOLUME	@ 31 GAL	@ 62 GAL	@ 93 GAL	@ 124 GAL	@ 157 GAL
TEMP, DEG C	11.3	11.0	10.9	10.9	11.0
PH, UNITS <input type="checkbox"/> PH PAPER	7.8	7.6	7.6	7.9	7.6
SPECIFIC CONDUCTIVITY umhos/cm	466	473	482	490	491
PUMP RATE, GPM					

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		0222801C
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		0222801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		0526101C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
SO4 TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TGC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VCC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>		0512301C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>		
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: VM/CK

RECEIVED BY: Nancy E. Rona

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

GRAF

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID GRAF

JOB NUMBER

6853-G-

SAMPLING DATE

4.7.92

LOCATION

ACTIVITY

START 1430

END

1515

PROGRAM

C

FILE NAME

CGW

WEATHER

prt. cloudy 50%

WATER LEVEL / WELL DATA

WELL DEPTH

FT

☐ MEASURED

☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

FT

PROTECTIVE CASING/WELL DIFF.

FT

WATER DEPTH

FT

GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

RISER ELEVATION

GROUNDWATER ELEVATION

HEIGHT OF WATER COLUMN

FT

TOTAL GAL PURGED

PURGE #22 CONTAINED?

☐ VOC

☐ DNT

☐ NO

WELL MATERIAL

☐ PVC

☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

☐ 2 INCH

☐ 4 INCH

☐ INCH

PURGE DATA

PURGE VOLUME

215 min GAL

2 GAL

2 GAL

2 GAL

2 GAL

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODCR

☐ OTHER (SEE NOTES)

TEMP, DEG C

PH, UNITS

☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

17.2/20.6

7.21

637

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 1/4"

DECON FLUIDS USED

POTABLE WATER

LIGHTNOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			3061	022280C
NA SS16	YES	HNO3 TO pH<2			3061	022280C
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			3061	022280C
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY		3061	050810C
CL TT08	YES	4 DEG C	500 ML POLY		3063	
SC4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		3064	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			3065	042870C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		3068	022280C
NG 99	NO	4 DEG C	1 L AG		3071	
NAM UN06	NO	4 DEG C	1 L AG		3072	
CH UW26	NO	4 DEG C	1 L AG		3072	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

Start 14:20 Mr. Graf says depth to 115'
End 15:00 Sandpoint Well - 2" diameter (plus) 1" diameter pipe

SIGNATURE:

[Signature]

RECEIVED BY:

Nancy E. Roten

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SC HAEFER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SC HAEFER

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 1530 END 1615

WEATHER

partly cloudy, D's

WATER LEVEL / WELL DATA

WELL DEPTH FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

FT

PROTECTIVE CASING/WELL DIFF. FT

WATER DEPTH FT

GAL/VOL

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

RISER ELEVATION

HEIGHT OF WATER COLUMN FT

TOTAL GAL PURGED

GROUNDWATER ELEVATION

PURGE H₂O CONTAINED? ☐ VOC ☐ UNT ☐ NO

WELL MATERIAL ☐ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER ☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 15 min GAL

@ GAL

@ GAL

@ GAL

@ GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.9

8.14

520

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		1816	0222801C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2			1816	0222801C
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1816	0222801C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1817	0528101C
CL TT08	YES	4 DEG C	500 ML POLY		1818	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1819	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1820	0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1823	0222101C
NG 99	NO	4 DEG C	1 L AG		1825	
NAM UN06	NO	4 DEG C	1 L AG		1826	
DNT UW26	NO	4 DEG C	1 L AG		1827	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

Start 1515
End 1545

took sample @ end of hose
1 lct VOLT water stand in a capped
bottle for about 3 min H₂O water

SIGNATURE:

RECEIVED BY:

has alot of bubbles (Ray. Olm. suggested
that I might get a better VOLT sample
that way.

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPEAR

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

SPEAR

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION

ACTIVITY

START 1630 END 1715

PROGRAM

C

FILE NAME

CGW

WEATHER

prt. cloudy, 50's

WATER LEVEL / WELL DATA

WELL DEPTH

FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

FT

PROTECTIVE CASING/WELL DIFF

FT

WATER DEPTH

FT

GAL/VOL

MA

WELL INTEGRITY:

PROT. CASING SECURE

YES

NO

N/A

RISER ELEVATION

FT

HEIGHT OF

WATER COLUMN

FT

TOTAL GAL PURGED

CONCRETE COLLAR INTACT

YES

NO

N/A

GROUNDWATER

ELEVATION

FT

PVC WELL CAP

YES

NO

N/A

PURGE H₂O CONTAINED?

☐ VOC

☐ DNT

☐ NO

WELL MATERIAL

☐ PVC

☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

215 mGAL

2 GAL

2 GAL

2 GAL

2 GAL

TEMP, DEG C

11.1

PH, UNITS ☐ PH PAPER

7.75

SPECIFIC CONDUCTIVITY umhos/cm

650

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 14"

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

POTABLE WATER

LIGHTNOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

1022.01C

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1828	022201C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1828	022201C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1829	022201C
CL TT08	YES	4 DEG C	500 ML POLY		1830	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1831	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			1832	0423701C
BN/A UM16	NO	4 DEG C (2) 1 L AG			1835	022201C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

Start 15:55 took sample
end 16:30 from faucet
in milk house

SIGNATURE:

RECEIVED BY:

William E. Rosta

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PREMO

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PREMO

JOB NUMBER

6853-04

SAMPLING DATE

4.7.92

LOCATION
ACTIVITY

START 1330 END 1415

PROGRAM

C

FILE NAME

CGW

WEATHER

part. cloudy, 50%

WATER LEVEL / WELL DATA

WELL DEPTH

FT

MEASURED

HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

FT

PROTECTIVE
CASING/WELL DIFF

FT

WATER DEPTH

FT

GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE

YES

NO

N/A

RISER
ELEVATION

HEIGHT OF
WATER COLUMN

FT

TOTAL GAL PURGED

CONCRETE COLLAR INTACT

YES

NO

N/A

GROUNDWATER
ELEVATION

PURGE H₂O CONTAINED?

VCC

DNT

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL
DIAMETER

2 INCH

4 INCH

INCH

PURGE DATA

PURGE VOLUME

20 GAL

GAL

GAL

GAL

GAL

TEMP, DEG C

10.0

pH, UNITS

pH PAPER

7.81

SPECIFIC CONDUCTIVITY umhos/cm

740

PUMP RATE, GPM

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐

☐

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		1804	0222801C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2			1804	0222801C
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1804	0222801C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1805	0222801C
CL TT08	YES	4 DEG C	500 ML POLY		1806	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1807	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		1808	0423701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1811	0128101C
NG 99	NO	4 DEG C	1 L AG		1813	
NAM UN06	NO	4 DEG C	1 L AG		1814	
DNT UW26	NO	4 DEG C	1 L AG		1815	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

Start 1315 took sample from
End 1415 outdoor pump

SIGNATURE:

RECEIVED BY:

W. E. R.

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SPN2905B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SPN-89-05B

JOB NUMBER

6853-04

SAMPLING DATE

4.24.92

LOCATION

ACTIVITY START 1000 END 1200

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 90 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.7 FT

PROTECTIVE CASING/WELL DIFF.

- 22 FT

WATER DEPTH 41.12 FT

HEIGHT OF WATER COLUMN 48.88 FT

45 GAL/VOL (45)
224 TOTAL GAL PURGED (224)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

804.02

GROUNDWATER ELEVATION

= 62.90

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME	2.5 GAL	90 GAL	135 GAL	180 GAL	224 GAL
TEMP, DEG C	9.3	9.6	9.6	9.6	9.6
pH, UNITS <input type="checkbox"/> pH PAPER	7.6	7.5	7.5	7.5	7.5
SPECIFIC CONDUCTIVITY umhos/cm	529	533	534	536	538
PUMP RATE, GPM					

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS#
32" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

801.6

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2			1264	052501C
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1264	052501C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1265	052501C
CL TT08	YES	4 DEG C	500 ML POLY		1266	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1267	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1268	052501C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1271	052501C
NG 99	NO	4 DEG C	1 L AG		1272	
NAM UN06	NO	4 DEG C	1 L AG		1273	
DNT UW26	NO	4 DEG C	1 L AG		1274	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		1275	

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/TH

RECEIVED BY: [Signature]

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM8901

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

4.13.92

SITE ID DBM-89-011

JOB NUMBER

6853-04

SAMPLING DATE

4.13.92

LOCATION

ACTIVITY

START 07.5 END 1000

PROGRAM

C

FILE NAME

CG

WEATHER

Cloudy

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.6 FT

PROTECTIVE CASING/WELL DIFF.

- .21 FT

WELL DEPTH 127 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 115.83 FT

19 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

275.99

HEIGHT OF WATER COLUMN ~11 FT

92 TOTAL GAL PURGED

GROUNDWATER ELEVATION

780.16

PURGE H₂O CONTAINED
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 19 GAL @ 38 GAL @ 57 GAL @ 76 GAL @ 92 GAL

TEMP, DEG C

pH, UNITS

☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.7	11.4	11.6	11.2	11.3
7.4	7.7	7.8	7.9	8.0
439	454	445	442	444

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

893.6

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		801	032600C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		801	032600C
CL TT08	YES	4 DEG C	500 ML POLY		802	032600C
SO4 TT08	YES	4 DEG C			803	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		804	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		805	032600C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		806	032600C
NG 99	NO	4 DEG C	1 L AG		807	032600C
NAM UN06	NO	4 DEG C	1 L AG		808	032600C
DNT UW26	NO	4 DEG C	1 L AG		809	032600C
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		810	032600C
					811	

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Vm/ck

RECEIVED BY: Nancy E. Rott

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN 8902A

PROJECT USATHAMA-SAAP

SITE TYPE WELL

SAMPLING DATE 4.13.92

SITE ID DBN-89-02A

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION

PROGRAM C

WEATHER cloudy, 30°s

ACTIVITY START 1400 END 1445

WATER LEVEL / WELL DATA

WELL DEPTH 122 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.3 FT

PROTECTIVE CASING/WELL DIFF. 118 FT

WATER DEPTH 110.05 FT

20 GAL/VOL

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

RISER ELEVATION 887.10

HEIGHT OF WATER COLUMN 12 FT

100 TOTAL GAL PURGED

GROUNDWATER ELEVATION 777.05

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

	@ 20 GAL	@ 40 GAL	@ 60 GAL	@ 80 GAL	@ 100 GAL
TEMP, DEG C	11.0	11.6	11.7	11.7	11.8
pH, UNITS	7.6	7.59	7.5	7.6	7.6
SPECIFIC CONDUCTIVITY μ mhos/cm	515	513	514	514	511
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS # 2
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION 884.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		812	0326601C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			812	0326601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		813	0326601C
CL TT08	YES	4 DEG C	500 ML POLY		814	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		815	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3NH2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VCC UM33	NO	HCL, 4 DEG C (3)40 ML VIAL			816	0422701C
BN/A UM16	NO	4 DEG C (2) 1 L AG			819	0228101C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		821	0228101C
DNT UW26	NO	4 DEG C	1 L AG		822	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*
RECEIVED BY: *Wendy E. Rosta*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN8702B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID DBN-87-02B

JOB NUMBER

6853-04

SAMPLING DATE

4-13-92

LOCATION
ACTIVITY

START 1500 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.15 FT

PROTECTIVE
CASING/WELL DIFF.

0.2 FT

WELL DEPTH 152 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 110.05 FT

40 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐

RISER
ELEVATION

886.90

HEIGHT OF
WATER COLUMN: 41.95 FT

200 TOTAL GAL PURGED

GROUNDWATER
ELEVATION

776.85

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL
DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 40 GAL

@ 80 GAL

@ 120 GAL

@ 160 GAL

@ 200 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.3

7.57

372

2.9

11.5

7.8

373

11.5

7.5

373

11.5

7.72

374

11.6

7.5

374

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

884.8

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		823 /	0326601C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
USEPA 130.2	YES	HNO3 TO pH<2			823	0326601C
TF10	YES	H2SO4 TO pH<2	500 ML POLY		824	0326601C
TT08	YES	4 DEG C	500 ML POLY		825	
SO4	YES	4 DEG C			826	
USEPA 310.1	NO	4 DEG C	500 ML POLY			
USEPA 160.1	NO	4 DEG C				
USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		827	0428701C
UM33	NO				830	0428701C
UM16	NO	4 DEG C	(2) 1 L AG		831	
99	NO	4 DEG C	1 L AG			
UN06	NO	4 DEG C	1 L AG		832	0428701C
UN26	NO	4 DEG C	1 L AG		833	
USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: John P. [Signature]

RECEIVED BY: Nancy E. [Signature]

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM 8903

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID DBM-89-031

JOB NUMBER

6853-04

SAMPLING DATE

4-11-92

LOCATION

ACTIVITY

START 1530 END 1630

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 50's

WATER LEVEL / WELL DATA

WELL DEPTH 135.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.4 FT

PROTECTIVE CASING/WELL DIFF.

.15 FT

WATER DEPTH 121.81 FT

25 GAL/VOL

34

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

892.85

GROUNDWATER ELEVATION

777.04

HEIGHT OF

WATER COLUMN

14 FT

125 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 25 GAL

@ 50 GAL

@ 75 GAL

@ 100 GAL

@ 125 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.8

7.6

455

2.8

11.3

7.3

466

11.4

7.3

464

1.4

7.3

464

11.3

7.43

472

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☒ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

02" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

896.4

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		834 /	032601C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			834 /	052601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		835 /	052601C
CL TT08	YES	4 DEG C	500 ML POLY		836 /	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		837 /	
TCS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		838 / 839 / 840	0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		841 / 842	0228101C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		843 /	0228101C
DNT UW26	NO	4 DEG C	1 L AG		844 /	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GUM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: J. Pearson / DL

RECEIVED BY: Nancy E. Rota

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN 89046

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID DBN-89-046

JOB NUMBER

6853-04

SAMPLING DATE

4-10-72

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 0715 END 1030

WEATHER

clear, 40°C

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.4 FT

PROTECTIVE CASING/WELL DIFF.

0.20 FT

WELL DEPTH 189.5 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 143.4 FT

40 GAL/VOL

WELL INTEGRITY:

YES NO N/A

RISER ELEVATION

920.14

HEIGHT OF WATER COLUMN 46 FT

200 TOTAL GAL PURGED

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

GROUNDWATER ELEVATION

776.73

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH

PURGE DATA

PURGE VOLUME

@ 40 GAL

@ 80 GAL

@ 120 GAL

@ 160 GAL

@ 200 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.4

5.0

512

3.8

11.9

7.4

518

12.0

7.3

512

11.9

7.4

517

12.0

7.4

505

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDEOS# 2
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

917.7

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		256	012280.C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			256	012280.C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		257	012280.C
CL TT08	YES	4 DEG C	500 ML POLY		258	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		259	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		260	012280.C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		263	012280.C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		265	012280.C
DNT UW26	NO	4 DEG C	1 L AG		266	
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*

RECEIVED BY: *[Signature]*

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

D B M 3 9 0 5

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID D B M - 8 9 - 0 5

JOB NUMBER 6853-04

SAMPLING DATE 4.11.92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY START 1430 END 1530

WEATHER cloudy, 50's

WATER LEVEL / WELL DATA

WELL DEPTH 129.5 FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

14 FT

PROTECTIVE CASING/WELL DIFF.

14 FT

WATER DEPTH 116.68 FT

20 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

900.43

HEIGHT OF WATER COLUMN 13 FT

100 TOTAL GAL PURGED

GROUNDWATER ELEVATION

783.75

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR - PPM

WELL MOUTH - PPM

WELL DIAMETER
☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME	@ 20 GAL	@ 70 GAL	@ 60 GAL	@ 80 GAL	@ 100 GAL
TEMP, DEG C	11.5	11.7	11.8	11.7	11.7
PH, UNITS <input type="checkbox"/> PH PAPER	7.60	7.47	7.55	7.57	7.50
SPECIFIC CONDUCTIVITY umhos/cm	486	466	486	487	488
PUMP RATE, GPM	2.9				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒
☐
☐
☐
☐
☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

897.9

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		867	0326501C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			867	0326501C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		864	0326501C
CL TT08	YES	4 DEG C	500 ML POLY		869	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		870	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		871	0128701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		874	0128701C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		876	022701C
DNT UW26	NO	4 DEG C	1 L AG		877	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: G. P. [Signature]

RECEIVED BY: Nancy E. Rotza

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBM8201

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID DBM-82-01

JOB NUMBER

6853-04

SAMPLING DATE

4/1/02

LOCATION

ACTIVITY START 0915 END 1030

PROGRAM

C

FILE NAME

CG

WEATHER

partly cloudy

WATER LEVEL / WELL DATA

WELL DEPTH 175.5 FT.

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.8 FT.

PROTECTIVE CASING/WELL DIFF.

- FT.

WATER DEPTH 141.72 FT.

50 GAL/VOL 50

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

918.72

HEIGHT OF WATER COLUMN 34 FT.

250 TOTAL GAL PURGED

GROUNDWATER ELEVATION

777.00

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

250 GAL

250 GAL

250 GAL

250 GAL

250 GAL

TEMP, DEG C

11.4

11.9

11.9

11.9

12.0

pH, UNITS ☐ pH PAPER

7.4

7.2

7.1

7.2

7.2

SPECIFIC CONDUCTIVITY umhos/cm

551

511

502

453

474

PUMP RATE, GPM

2.8

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ CCCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GRUNDFOS #
2" 4" #

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

917.0

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		757	07225010
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			757	07225010
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		758	07225010
CL TT08	YES	4 DEG C	500 ML POLY		759	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		760	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		761	07225010
BN/A UM16	NO	4 DEG C	(2) 1 L AG		764	07225010
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		765	07225010
DNT UW26	NO	4 DEG C	1 L AG		766	07225010
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		767	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

pump silted up during purging - cleaned out twice

SIGNATURE: J. R. Rasmussen / Dr.
RECEIVED BY: Nancy E. Rasmussen

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DIB M 8121012

PROJECT: USATHAMA-BAAP

SITE TYPE

WELL

SITE ID: DIB M-812-012

JOB NUMBER

6853-04

LOCATION

ACTIVITY

START 0800 END 0700

PROGRAM

C

SAMPLING DATE

4-11-92

FILE NAME

CGW

WEATHER

rainy 40's

WATER LEVEL / WELL DATA

☒

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.15 FT

PROTECTIVE
CASING/WELL DIFF.

FT

WELL DEPTH

153 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

139.77 FT

30 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER

ELEVATION

920.16

GROUNDWATER

ELEVATION

780.39

HEIGHT OF

WATER COLUMN

18 FT

150 TOTAL GAL PURGED

PURGE H₂O CONTAINED?

☐ VOC

☐ DNT

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

☐ 2 INCH

☒ 4 INCH

☐ INCH

PURGE DATA

PURGE VOLUME

a 30 GAL

a 60 GAL

a 90 GAL

a 120 GAL

a 150 GAL

TEMP, DEG C

PH, UNITS

☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.0

11.8

11.9

11.9

11.9

7.2

7.0

7.0

7.0

7.0

1311

1316

1314

1312

1304

3.2

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

1-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS #

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

918.2

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD

FILTERED

PRESERVATION

VOLUME

SAMPLE

SAMPLE BOTTLE ID NUMBERS

BOTTLE

LOT #

PP METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

TAL METALS (SPECIFIED BELOW)

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

CA

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

NA

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

CD

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

CR

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

HG

SB03

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

PB

SD24

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

NI

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

BA

SS16

YES

HNO3 TO pH<2

1 L POLY

762

762

0222801C

HARD

USEPA 130.2

YES

HNO3 TO pH<2

500 ML POLY

762

762

0222801C

NIT

TF10

YES

H2SO4 TO pH<2

500 ML POLY

762

762

0222801C

CL

TT08

YES

4 DEG C

500 ML POLY

762

762

0222801C

SO4

TT08

YES

4 DEG C

500 ML POLY

762

762

0222801C

ALK

USEPA 310.1

NO

4 DEG C

500 ML POLY

762

762

0222801C

TDS

USEPA 160.1

NO

4 DEG C

500 ML POLY

762

762

0222801C

TOC

USEPA 415.1

NO

H2SO4 TO pH<2

(3) 40 ML VIAL

762

762

0222801C

NH3N2

USEPA 350.2

NO

H2SO4 TO pH<2

500 ML POLY

762

762

0222801C

VOC

UM17

NO

HCL, 4 DEG C

(3) 40 ML VIAL

762

762

0222801C

BN/A

UM16

NO

4 DEG C

(2) 1 L AG

762

762

0222801C

NG

99

NO

4 DEG C

1 L AG

762

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN82018

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4-12-92

SITE ID DBN-82-018

JOB NUMBER 6853-04

FILE NAME CSW

LOCATION ACTIVITY START 0800 END 0915

PROGRAM C

WEATHER Sunny, 40°

WATER LEVEL / WELL DATA

WELL DEPTH 159.5 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.5 FT

PROTECTIVE CASING/WELL DIFF.

1.04 FT

WATER DEPTH 130.35 FT

30 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

907.80

GROUNDWATER ELEVATION

777.05

HEIGHT OF WATER COLUMN 19 FT

1.50 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☒ SS

AMBIENT AIR ☒ PPM

WELL MOUTH ☒ PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 30 GAL @ 100 GAL @ 200 GAL @ 120 GAL @ 500 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

1.6	12.2	12.2	12.2	12.3
6.6	7.66	7.61	7.50	7.66
2.1	270	273	250	2.1

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

905.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2	1 L POLY		779	032601C
TAL METALS (SPECIFIED BELOW)	YES	HN03 TO pH<2				
CA SS16	YES	HN03 TO pH<2				
NA SS16	YES	HN03 TO pH<2				
CD SS16	YES	HN03 TO pH<2				
CR SS16	YES	HN03 TO pH<2				
HG SB03	YES	HN03 TO pH<2				
PB SD24	YES	HN03 TO pH<2				
NI SS16	YES	HN03 TO pH<2				
BA SS16	YES	HN03 TO pH<2				
HARD USEPA 130.2	YES	HN03 TO pH<2			779	032601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		780	032601C
CL TT08	YES	4 DEG C	500 ML POLY		781	
SO4 TT08	YES	4 DEG C			782	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		783	0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		784	0228101C
NG 99	NO	4 DEG C	1 L AG		785	
NAM UN06	NO	4 DEG C	1 L AG		786	0228101C
DNT UW26	NO	4 DEG C	1 L AG		787	0228101C
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		788	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: G. E. Samuel

RECEIVED BY: Nancy E. Porter

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN 82-01C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID DBN-82-01C

JOB NUMBER 6853-04

SAMPLING DATE 4/12/92

LOCATION

ACTIVITY START 0930 END 1045

PROGRAM C

FILE NAME CGW

WEATHER Sunny, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 169 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.4 FT

PROTECTIVE CASING/WELL DIFF.

0.2 FT

WATER DEPTH 136.23 FT

36

GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER

ELEVATION 907.36

HEIGHT OF

WATER COLUMN 39 FT

180

TOTAL GAL PURGED

GROUNDWATER

ELEVATION 777.08

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

2 36 GAL

2 21 GAL

2 108 GAL

2 44 GAL

2 180 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.7

12.4

12.4

12.2

12.2

7.59

7.65

7.73

7.5

7.5

26.9

26.7

26.2

26.1

25.7

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GRUNDFOS #
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

905.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		790 /	0326601C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			790 /	0326601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		791 /	052801C
CL TT08	YES	4 DEG C	500 ML POLY		792 /	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		793 /	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3NH2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		794 /	012801C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		797 /	022801C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		799 /	022801C
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		800 /	

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* One BN/A bottle broke - sample was poured into another bottle

SIGNATURE: J. J. [Signature]

RECEIVED BY:

ABB ENVIRONMENTAL SERVICES, INC.

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

DBN 89104A

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **DBN-89-104A**

JOB NUMBER **6853-04**

SAMPLING DATE **4.10.92**

LOCATION ACTIVITY **START 0800 END 0900**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **cloudy, 40's**

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.4 FT

PROTECTIVE CASING/WELL DIFF. **2.4** FT

WELL DEPTH **157** FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH **132.4** FT

30 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION **919.29**

HEIGHT OF WATER COLUMN **13** FT

150 TOTAL GAL PURGED

GROUNDWATER ELEVATION **780.09**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☒ SS

AMBIENT AIR **PPM**

WELL MOUTH **PPM**

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

30 GAL **60** GAL **90** GAL **120** GAL **150** GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.2	11.6	11.5	11.5	11.5
7.0	7.1	7.2	7.2	7.2
546	540	547	548	548
3				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# **X**
☒ 2" ☐ 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

917.5

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY		845	022220.C
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CO	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2			845	022220.C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		846	022220.C
CL	TT08	YES	4 DEG C	500 ML POLY		847	
SO4	TT08	YES	4 DEG C			848	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		849	
TDS	USEPA 160.1	NO	4 DEG C			850	
TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL			851	
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY			852	
VOC	UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			853	022220.C
BN/A	UM16	NO	4 DEG C (2) 1 L AG			854	022220.C
NG	99	NO	4 DEG C 1 L AG			855	
NAM	UN06	NO	4 DEG C 1 L AG				
DNT	UW26	NO	4 DEG C 1 L AG				
TPH	USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*

RECEIVED BY: *Nancy E. R.*

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **ELN91074**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **4.11.92**

SITE ID **ELN-91-074**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION ACTIVITY **START 1415 END 1500**

PROGRAM **C**

WEATHER **wet, cloudy, 50°**

WATER LEVEL / WELL DATA

WELL DEPTH **128** FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) **1.7±** FT

PROTECTIVE CASING/WELL DIFF. **-1.1** FT

WATER DEPTH **120.79** FT

9 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION **877.65**

HEIGHT OF WATER COLUMN **7** FT

45 TOTAL GAL PURGED

GROUNDWATER ELEVATION **776.86**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

MATERIAL ☒ PVC ☐ SS

AMBIENT AIR ☐ PPM

WELL MOUTH ☐ PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME	9 GAL	18 GAL	27 GAL	36 GAL	45 GAL
TEMP, DEG C	11.6	11.8	11.1	11.0	11.1
pH, UNITS <input type="checkbox"/> pH PAPER	7.9	7.8	7.8	7.8	7.6
SPECIFIC CONDUCTIVITY umhos/cm	643	633	627	627	639
PUMP RATE, GPM					

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☒ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
PERISTALTIC PUMP ☒
SUBMERSIBLE PUMP ☒
BAILER ☒
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☒
OTHER ☐

EQUIPMENT ID
ISCO #
GRUNDFOS#
☒ 2" ☐ 4" #

FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION **875.3**

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1123	0326601C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NA	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1123	0326601C
NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1124	0548101C
CL	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1125	
SO ₄	YES	4 DEG C		<input checked="" type="checkbox"/>	1126	
ALK	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
TDS	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>		
NH ₃ N	NO	H ₂ SO ₄ TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>		
VOC	NO	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	1127	0428701C
BN/A	NO	4 DEG C (2) 1 L AG		<input checked="" type="checkbox"/>	1130	0228101C
NG	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
NAM	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1132	0228101C
DNT	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1133	
TPH	NO	H ₂ SO ₄ TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

Purge water silty/cloudy thru 3 1/2 Vol.
then cleared up

SIGNATURE: **VM/CK**

RECEIVED BY: **Wendy E Rofca**

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN91107B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-91-07B

JOB NUMBER

6853-04

SAMPLING DATE

4-11-92

LOCATION: ON ACTIVITY

START 1515 END 1700

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy w/ 50%

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.61 FT

PROTECTIVE CASING/WELL DIFF.

-10 FT

WELL DEPTH 147 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 118.97 FT

36 GAL/VOL 36

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

875.82

GROUNDWATER ELEVATION

776.91

HEIGHT OF WATER COLUMN 28 FT

179 TOTAL GAL PURGED

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

36 GAL

72 GAL

108 GAL

144 GAL

179 GAL

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.3

10.3

10.7

10.8

10.7

7.7

7.7

7.7

7.7

7.7

619

608

605

609

620

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER

ISCO #
GRUNDEOS#
2" 4" #

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

893.7

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1134	032660C
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CO SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1134	032660C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1135	052810C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1136	
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1137	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	1138	042870C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1141	022810C
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1142	
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1143	022810C
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1144	
TPH USEPA 418.1	KJ	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

Wm CK
Wendy E. Rora

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM91110

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID ELM-911-110

JOB NUMBER 6853-04

SAMPLING DATE 4-13-92

LOCATION ACTIVITY START 1045 END 1130

PROGRAM C

FILE NAME CGW

WEATHER cloudy, 30% S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.41 FT

PROTECTIVE CASING/WELL DIFF.

-14 FT

WELL DEPTH 156 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 145.91 FT

15 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

923.04

HEIGHT OF WATER COLUMN 10 FT

75 TOTAL GAL PURGED

GROUNDWATER ELEVATION

445.46

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER 2 INCH
1/4 INCH

777.05

PURGE DATA

PURGE VOLUME

@ 15 GAL

@ 30 GAL

@ 45 GAL

@ 60 GAL

@ 75 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.3

9.9

10.3

10.3

10.2

7.2

7.0

7.0

7.0

7.0

1165

1250

1276

1289

1260

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

920.8

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			1145	032660C
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1145	032660C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1146	032660C
CL TT08	YES	4 DEG C	500 ML POLY		1147	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1148	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1149	1150
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1152	1153
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG		1154	
DNT UW26	NO	4 DEG C	1 L AG		1155	
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Vinick

RECEIVED BY:

Wendy E. Rota

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8701

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-01

JOB NUMBER

6853-04

SAMPLING DATE

4.12.92

LOCATION

ACTIVITY START 1400 END 1515

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny, windy, 40

WATER LEVEL / WELL DATA

WELL DEPTH 167 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.25 FT

PROTECTIVE CASING/WELL DIFF.

60.18 FT

WATER DEPTH 144.78 FT

40 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
4 VC WELL CAP

YES NO N/A
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐

RISER ELEVATION

922.73

GROUNDWATER ELEVATION

777.75

HEIGHT OF WATER COLUMN 23 FT

100 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 40 GAL

@ 80 GAL

@ 120 GAL

@ 160 GAL

@ 200 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.1

11.4

11.1

11.2

11.2

6.94

7.0

6.9

6.9

6.9

7.5

7.14

7.19

7.19

7.14

3.2

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# X
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

920.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			997	0326601C
CA	SS16	HNO3 TO pH<2				
NA	SS16	HNO3 TO pH<2				
CD	SS16	HNO3 TO pH<2				
CR	SS16	HNO3 TO pH<2				
HG	SB03	HNO3 TO pH<2				
PB	SD24	HNO3 TO pH<2				
NI	SS16	HNO3 TO pH<2				
BA	SS16	HNO3 TO pH<2				
HARD	USEPA 130.2	HNO3 TO pH<2			997	0326601C
NIT	TF10	H2SO4 TO pH<2	500 ML POLY		997	0328101C
CL	TT08	4 DEG C	500 ML POLY		997	
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY		1000	
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1					
NH3N2	USEPA 350.2					
VOC	UM33	HCL, 4 DEG C	(3)40 ML VIAL		1001	0428701C
BN/A	UM16	4 DEG C	(2) 1 L AG		1004	0338101C
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UN26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]*

RECEIVED BY: *[Signature]*

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PAGE OF

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER ELN-89-02A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.13.92

SITE ID ELN-89-02A

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1015 END 1030

PROGRAM C

WEATHER cloudy, 30°s

WATER LEVEL / WELL DATA

WELL DEPTH 160.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.31 FT

PROTECTIVE
CASING/WELL DIFF. -.73 FT

WATER DEPTH 144.31 FT

GAL/VOL 27

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER
ELEVATION 921.10

HEIGHT OF
WATER COLUMN 16 FT

3-4 TOTAL GAL PURGED 133

GROUNDWATER
ELEVATION 776.79

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ P/C ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

4-13 92

PURGE VOLUME

a	GAL	a	GAL	a	GAL	a	GAL	a	GAL
	<u>7.6</u>		<u>9.8</u>		<u>340</u>				

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY μ mhos/cm

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
☒ 2" ☐ 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

919.4

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2			<u>1006</u>	<u>052660.C</u>
NA	YES	HNO ₃ TO pH<2				
CD	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
USEPA 130.2	YES	HNO ₃ TO pH<2			<u>1006</u>	<u>052660.C</u>
TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		<u>1007</u>	<u>052660.C</u>
TT08	YES	4 DEG C	500 ML POLY		<u>1008</u>	
TT08	YES	4 DEG C	500 ML POLY		<u>1009</u>	
USEPA 310.1	NO	4 DEG C	500 ML POLY			
USEPA 160.1	NO	4 DEG C				
USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		<u>1010</u>	<u>012570.C</u>
UM16	NO	4 DEG C	(2) 1 L AG		<u>1013</u>	<u>012570.C</u>
99	NO	4 DEG C	1 L AG		<u>1014</u>	
UN06	NO	4 DEG C	1 L AG			
UN26	NO	4 DEG C	1 L AG			
USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

12) Bailed ~ 3-4 gal. pulled H₂O column down
~ 4 Ft. very silty, "grouty".

SIGNATURE: VM/CK

RECEIVED BY: UNancy E. Rosta

12) collected most of samples at 1030. Will return later on to get the rest of the SVCAU.

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8902B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN89-02B

JOB NUMBER

6853-04

SAMPLING DATE

4-10-92

LOCATION

ACTIVITY START 0930 END 1100

PROGRAM

C

FILE NAME

CGW

WEATHER

Sunny Windy

WATER LEVEL / WELL DATA

WELL DEPTH 180.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.1 ± FT

PROTECTIVE CASING/WELL DIFF.

-1.35 FT

WATER DEPTH 144.41 FT

36

GAL/VOL

11

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

920.19

GROUNDWATER

ELEVATION

775.78

HEIGHT OF WATER COLUMN 26 FT

182

TOTAL GAL PURGED

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR

0

PPM

WELL MOUTH

0

PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

36 GAL

72 GAL

108 GAL

144 GAL

182 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

PUMP RATE, GPM

9.7

10.3

11.2

11.2

11.2

7.3

7.6

7.8

7.7

7.7

439

471

443

447

452

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROB
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

918.0

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1015	032660.0
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1015	032660.0
NIT TT10	YES	H2SO4 TO pH<2	500 ML POLY		1016	032660.0
CL TT08	YES	4 DEG C	500 ML POLY		1017	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1018	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1019	032660.0
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1022	032660.0
NG	NO	4 DEG C	1 L AG		1023	
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CA,CB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

VM/CK

RECEIVED BY:

Wendy E. Korta

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8903

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-03

JOB NUMBER

6853-04

SAMPLING DATE

4.10.92

LOCATION

ACTIVITY

START 1445 END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

rain, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 152 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.45 FT

PROTECTIVE CASING/WELL DIFF.

13 FT

WATER DEPTH 139.15 FT

20 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE ☒ YES ☐ NO
CONCRETE COLLAR INTACT ☒ YES ☐ NO
WELL LOCKED ☒ YES ☐ NO
PVC WELL CAP ☒ YES ☐ NO

RISER

ELEVATION

916.28

HEIGHT OF WATER COLUMN 13 FT

120 TOTAL GAL PURGED

GROUNDWATER ELEVATION

777.13

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

a 20 GAL a 40 GAL a 60 GAL a 80 GAL a 120 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.7	10.5	10.6	10.6	10.8
2.4	7.2	7.2	7.3	7.3
557	560	561	564	565
3.2				

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

914.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1024	022501C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1024	022501C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1025	022501C
CL TT08	YES	4 DEG C	500 ML POLY		1026	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1027	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		1028	022501C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1031	022501C
NG 99	NO	4 DEG C	1 L AG		1032	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(XAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: J. [Signature] / DL

RECEIVED BY: Wmancy E. [Signature]

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN29104A

PROJECT: USATHAMA-BAAP

SITE TYPE: WELL

SITE ID: ELN-29-104A

JOB NUMBER: 6853-04

SAMPLING DATE: 1/27/92

LOCATION ACTIVITY

START

END

PROGRAM: C

FILE NAME: CGW

WEATHER

WATER LEVEL / WELL DATA

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.31 FT

PROTECTIVE CASING/WELL DIFF.

-0.12 FT

WELL DEPTH: 164 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH: 14.68 FT

26 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION: 926.23

HEIGHT OF WATER COLUMN

14.68

150

TOTAL GAL PURGED

GROUNDWATER ELEVATION: 776.9

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

PPM

WELL MOUTH 11 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 26 GAL

@ 52 GAL

@ 78 GAL

@ 104 GAL

@ 130 GAL

TEMP, DEG C

12.8

12.5

12.1

12.1

11.9

pH, UNITS ☐ pH PAPER

6.81

6.83

6.92

6.94

6.95

SPECIFIC CONDUCTIVITY μ mhos/cm

116.9

118.5

119.3

118.9

117.2

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

924.1

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER

FILTERED

PRESERVATION METHOD

VOLUME REQUIRED

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

BOTTLE LOT #

☒ PP METALS (SPECIFIED BELOW)

☒ TAL METALS (SPECIFIED BELOW)

☒ CA SS16 YES HNO3 TO pH<2 1 L POLY 1033 / / 032000

☒ NA SS16 YES HNO3 TO pH<2 1034 / / 032000

☒ CD SS16 YES HNO3 TO pH<2 1035 / / 032000

☒ CR SS16 YES HNO3 TO pH<2 1036 / / 032000

☒ HG SB03 YES HNO3 TO pH<2 1037 / / 032000

☒ PB SD24 YES HNO3 TO pH<2 1038 / / 032000

☒ NI SS16 YES HNO3 TO pH<2 1039 / / 032000

☒ BA SS16 YES HNO3 TO pH<2 1040 / / 032000

☒ HARD USEPA 130.2 YES HNO3 TO pH<2 1041 / / 032000

☒ NIT TF10 YES H2SO4 TO pH<2 500 ML POLY 1042 / / 032000

☒ CL TT08 YES 4 DEG C 500 ML POLY 1043 / / 032000

☒ SO4 TT08 YES 4 DEG C 500 ML POLY 1044 / / 032000

☒ ALK USEPA 310.1 NO 4 DEG C 500 ML POLY 1045 / / 032000

☒ TDS USEPA 160.1 NO 4 DEG C 500 ML POLY 1046 / / 032000

☒ TOC USEPA 415.1 NO H2SO4 TO pH<2 (3)40 ML VIAL 1047 / / 032000

☒ NH3N2 USEPA 350.2 NO H2SO4 TO pH<2 500 ML POLY 1048 / / 032000

☒ VOC UM 33 NO HCL, 4 DEG C (3)40 ML VIAL 1049 / / 032000

☒ BN/A UM16 NO 4 DEG C (2) 1 L AG 1050 / / 032000

☒ NG 99 NO 4 DEG C 1 L AG 1051 / / 032000

☒ NAM UN06 NO 4 DEG C 1 L AG 1052 / / 032000

☒ DNT UW26 NO 4 DEG C 1 L AG 1053 / / 032000

☒ TPH USEPA 418.1 NO H2SO4 TO pH<2 1 L GUM 1054 / / 032000

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

ENCLOSURE AT 1710

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN89104B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-89-104B

JOB NUMBER

6853-04

SAMPLING DATE

4/25/92

LOCATION

ACTIVITY

START 4/25/92

END 17:30

PROGRAM

C

FILE NAME

CGW

WEATHER

OVERCAST
40's

WATER LEVEL / WELL DATA

WELL DEPTH

201 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.75 FT

PROTECTIVE
CASING/WELL DIFF.

.21 FT

WATER DEPTH

150.5 FT

45 GAL/VOL

45

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER
ELEVATION

926.63

HEIGHT OF
WATER COLUMN

50.5 FT

224 TOTAL GAL PURGED

GROUNDWATER
ELEVATION

776.13

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 45 GAL

@ 40 GAL

@ 135 GAL

@ 180 GAL

@ 224 GAL

TEMP, DEG C

10.7

10.8

10.6

10.9

10.8

PH, UNITS

☐ PH PAPER

7.72

7.69

7.67

7.65

7.62

SPECIFIC CONDUCTIVITY umhos/cm

617

617

614

612

611

PUMP RATE, GPM

4

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☒ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# ABB #2
☐ 2" ☐ 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

924.8

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1042	032601C
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1042	032601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1043	032601C
CL TT08	YES	4 DEG C	500 ML POLY		1044	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1045	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1046	032601C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1049	032601C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Paul E. Carter / G.P.*
RECEIVED BY: *Paul E. Carter*

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8905

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-05

JOB NUMBER

6853-0-

SAMPLING DATE

4.10.72

LOCATION

ACTIVITY START 1015 END 1100

PROGRAM

C

FILE NAME

CGW

WEATHER

RAIN, 40°S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.65 FT

PROTECTIVE CASING/WELL DIFF.

1.03 FT

WELL DEPTH 136 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 123.46 FT

20 GAL/VOL 20

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

900.95

GROUNDWATER ELEVATION

777.49

HEIGHT OF WATER COLUMN 12.5 FT

100 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 20 GAL

@ 40 GAL

@ 60 GAL

@ 80 GAL

@ 100 GAL

TEMP, DEG C

9.9

10.0

10.1

10.1

12.3

PH, UNITS ☐ PH PAPER

7.6

7.5

7.4

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

604

664

614

707

612

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GROUNDFOSS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

129.5

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1051	0723010
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	1051	0723010
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1052	0723010
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1053	
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1054	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	1055	0723010
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1056	0723010
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1057	0723010
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

VM/CK

RECEIVED BY:

Nancy E. Rotea

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN 891068

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-89-068

JOB NUMBER

6853-04

SAMPLING DATE 4.10.92

LOCATION

ACTIVITY START 1315 END 1530

PROGRAM

C

FILE NAME

CGW

WEATHER rain, 40° S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.7 ± FT

PROTECTIVE CASING/WELL DIFF.

- .76 FT

WELL DEPTH 184 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 131.44 FT

47 GAL/VOL

47

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

908.22

HEIGHT OF WATER COLUMN 253 FT

231 TOTAL GAL PURGED

GROUNDWATER ELEVATION

776.78

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

PURGE VOLUME	1	2	3	4	5
	47 GAL	97 GAL	141 GAL	188 GAL	231 GAL
TEMP, DEG C	9.8	10.5	12.6	10.5	10.6
PH, UNITS <input type="checkbox"/> PH PAPER	7.8	7.6	7.6	7.6	7.6
SPECIFIC CONDUCTIVITY umhos/cm	525	532	534	535	534
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

906.1

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1060	022280.C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1061	022280.C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1061	052280.C
CL TT08	YES	4 DEG C	500 ML POLY		1062	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1063	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			1064	042280.C
BN/A UM16	NO	4 DEG C (2) 1 L AG			1067	022280.C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Vm/CK

RECEIVED BY:

Stanley E. Rota

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8907

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-07

JOB NUMBER

6853-04

SAMPLING DATE

4.13.92

LOCATION

ACTIVITY

START 1400 END 1445

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30°S

WATER LEVEL / WELL DATA

WELL DEPTH 152.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

24± FT

PROTECTIVE CASING/WELL DIFF.

-.09 FT

WATER DEPTH 139.96 FT

20 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

916.19

GROUNDWATER ELEVATION

776.23

HEIGHT OF WATER COLUMN 12.5 FT

100 TOTAL GAL PURGED

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

20 GAL

40 GAL

60 GAL

80 GAL

100 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

9.5	10.6	10.6	10.6	10.6
7.8	7.8	7.8	7.8	7.8
520	634	529	533	537

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

913.7

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		1069	032666C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1069	032666C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		1070	052810C
CL TT08	YES	4 DEG C	500 ML POLY		1071	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1072	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1073	042870C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1076	032810C
NG 99	NO	4 DEG C	1 L AG		1077	
NAM UNC6	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

UM/CLK

RECEIVED BY:

Wmancy E. R...

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM8908

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-08

JOB NUMBER

6853-04

SAMPLING DATE

4.13.92

LOCATION ACTIVITY

START 1200 END 1300

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30°S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.8± FT

PROTECTIVE CASING/WELL DIFF.

-.20 FT

WELL DEPTH 148 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 129.40 FT

30 GAL/VOL 30

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

906.04

HEIGHT OF WATER COLUMN 19 FT

150 TOTAL GAL PURGED

GROUNDWATER ELEVATION

776.64

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

30 GAL 60 GAL 90 GAL 120 GAL 150 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM ~ 5 gpm

9.1	10.5	10.6	10.7	10.5
7.9	7.9	7.9	7.9	7.9
499	491	489	489	490

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

903.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1078	0526501C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1078	0526501C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1079	0528101C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1080	
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1081	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	1082	0422701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1085	0528101C
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)

SIGNATURE:

UM/CK

RECEIVED BY:

Nancy E. Rota

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELM89109

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELM-89-019

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION

ACTIVITY START 1100 END 1200

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 57.5

WATER LEVEL / WELL DATA

WELL DEPTH 157 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

3.2 ± FT

PROTECTIVE CASING/WELL DIFF.

-1.29 FT

WATER DEPTH 142.80 FT

2 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

YES

NO

N/A

RISER

ELEVATION

921.79

HEIGHT OF WATER COLUMN 14 FT

130

TOTAL GAL PURGED

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

GROUNDWATER

ELEVATION

778.79

PURGE H₂O CONTAINED?

☐ VOC

☐ DNT

☒ NO

WELL MATERIAL

☐ PVC

☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER

☒ 2 INCH

☐ 4 INCH

☐ INCH

PURGE DATA

PURGE VOLUME

@ 26 GAL

@ 52 GAL

@ 78 GAL

@ 104 GAL

@ 130 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

12.8

12.8

12.9

12.8

12.8

7.1

7.2

7.0

7.0

7.0

1041

1072

1082

1079

1081

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

919.6

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	1087	0222501C
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CO SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1087	0222501C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1088	02225010
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1089	
SO ₄ TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1090	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>		
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>		
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	1091	0422701C
BN/A UM16	NO	4 DEG C (2) 1 L AG		<input checked="" type="checkbox"/>	1092	
NG 99	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>	1093	0222501C
NAM UNC6	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2 1 L GWM		<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

VM/CK

RECEIVED BY:

Marcy E. Rose

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8201A

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-82-01A

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION

ACTIVITY START 0815 END 0815

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 10's

WATER LEVEL / WELL DATA

WELL DEPTH 135 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP
(FROM GROUND)

2.1 ± FT

PROTECTIVE CASING/WELL DIFF.

Flush FT

WATER DEPTH 127.12 FT

GAL/VOL 134

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

905.02

HEIGHT OF WATER COLUMN ~ 8 FT
127.12 FT

5 TOTAL GAL PURGED

GROUNDWATER ELEVATION

777.90

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

5 GAL 0 GAL 0 GAL 0 GAL 0 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

16.2
7.7
4.5

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

902.8

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2			889	022801C
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			889	022801C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		890	022801C
CL TT08	YES	4 DEG C	500 ML POLY		891	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		892	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		893	022801C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		894	022801C
NG 99	NO	4 DEG C	1 L AG		895	022801C
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Purged dry at ~ 5 gal. w/ 2" Bailer (4.8.92)

SIGNATURE: VM/CK
RECEIVED BY: Wmancy E. Rofa

* Sampled w/ 2" Bailer 4/9/92

Purged on 4/8/92

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN2201B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-82-01B

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION
ACTIVITY

START 0900 END 0730

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 40°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.3±

FT

PROTECTIVE
CASING/WELL DIFF.

7.13

WELL DEPTH

146

FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

126.98

FT

25

GAL/VOL

25

HEIGHT OF
WATER COLUMN

19

FT

8

TOTAL GAL PURGED

125

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐

RISER
ELEVATION

904.75

GROUNDWATER
ELEVATION

777.77

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR

0

WELL MOUTH

0

WELL
DIAMETER

☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

8 GAL

GAL

GAL

GAL

GAL

TEMP, DEG C

12.3

pH, UNITS ☐ pH PAPER

7.7

SPECIFIC CONDUCTIVITY umhos/cm

458

PUMP RATE, GPM

125

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

902.5

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	SS16	HNO3 TO pH<2				
NA	SS16	HNO3 TO pH<2				
CD	SS16	HNO3 TO pH<2				
CR	SS16	HNO3 TO pH<2				
HG	SB03	HNO3 TO pH<2				
PB	SD24	HNO3 TO pH<2				
NI	SS16	HNO3 TO pH<2				
BA	SS16	HNO3 TO pH<2				
HARD	USEPA 130.2	HNO3 TO pH<2				
NIT	TF10	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	4 DEG C	500 ML POLY			
SO4	TT08	4 DEG C				
ALK	USEPA 310.1	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	4 DEG C				
TOC	USEPA 415.1	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2	USEPA 350.2	H2SO4 TO pH<2 500 ML POLY				
VOC	UM17	HCL, 4 DEG C (3)40 ML VIAL				
BN/A	UM16	4 DEG C (2) 1 L AG				
NG	99	4 DEG C	1 L AG			
NAM	UN06	4 DEG C	1 L AG			
DNT	UN26	4 DEG C	1 L AG			
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Pump kept shutting down - well somewhat
silty, only able to purge 8 gal. even
after lowering pump to bottom. Purged 4.8.92

SIGNATURE: Vm/CK

RECEIVED BY: Nancy E. Rott

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8201C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

ELN-82-01C

JOB NUMBER

6853-04

SAMPLING DATE

4.9.92

LOCATION

ACTIVITY

START 0945 END 1015

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, no sun

WATER LEVEL / WELL DATA

☒

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

-12.3 FT

PROTECTIVE
CASING/WELL DIFF.

-0.02 FT

WELL DEPTH

156 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH

127.52 FT

18 GAL/VOL

31

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER
ELEVATION

905.06

HEIGHT OF

WATER COLUMN

28.5 FT

101

TOTAL GAL PURGED

15

GROUNDWATER
ELEVATION

777.54

PURGE H₂O CONTAINED?

☐ VOC ☐ DNT ☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL

DIAMETER

☒ 2 INCH

☐ 4 INCH

☐ 6 INCH

PURGE DATA

4/8/92

4/9/92

PURGE VOLUME

217 GAL

21 GAL

42 GAL

63 GAL

84 GAL

TEMP, DEG C

PH, UNITS

☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.4

12.4

12.0

12.0

11.7

7.5

7.5

7.5

7.5

7.5

429

429

429

429

429

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GROUND FOS#

☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

902.7

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2				
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO ₄	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

Purged 17 gal (dry?) on 4.8.92. Purged 67 more gallons on 4.9.92 and sampled after recharging.

SIGNATURE:

VM/CK

RECEIVED BY:

Nancy E. Rofa

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN-82-02A

PROJECT USATHAMA-SAAP

SITE TYPE

WELL

SITE ID ELN-82-02A

JOB NUMBER

6853-04

SAMPLING DATE

4/23/92

LOCATION

ACTIVITY START 0815 END 1230

PROGRAM

C

FILE NAME

CGW

WEATHER

Clear / 100%

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

2.10 FT

PROTECTIVE

CASING/WELL DIFF. 4.10 FT

WELL DEPTH 145 FT

☒ MEASURED
☐ HISTORICAL

TOP OF CASING

CASING STICK-UP (FROM GROUND)

WATER DEPTH 132.60 FT

10 GAL/VOL

WELL INTEGRITY:

YES NO N/A

RISER

ELEVATION 916.00

HEIGHT OF WATER COLUMN 6.4 FT

50 TOTAL GAL PURGED

PROT. CASING SECURE

CONCRETE COLLAR INTACT

GROUNDWATER

ELEVATION 777.4

WELL LOCKED

PVC WELL CAP

PURGE H₂O CONTAINED?

WELL MATERIAL

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER

2 INCH

4 INCH

INCH

PURGE DATA

PURGE VOLUME

@ 10 GAL

@ 31 GAL

@ 30 GAL

@ 51 GAL

@ 60 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

12.3

12.8

12.5

12.4

13.3

6.0

6.2

6.8

6.9

6.9

11.3

11.5

12.0

12.0

12.0

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLORLESS

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

913.8

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		916	032660.0
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CA	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NA	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CO	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CR	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HG	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> PB	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NI	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> BA	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HARD	YES	HNO ₃ TO pH<2			916	032660.0
<input checked="" type="checkbox"/> NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		917	032660.0
<input checked="" type="checkbox"/> CL	YES	4 DEG C	500 ML POLY		918	
<input checked="" type="checkbox"/> SO ₄	YES	4 DEG C				
<input checked="" type="checkbox"/> ALK	NO	4 DEG C	500 ML POLY		919	
<input checked="" type="checkbox"/> TDS	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
<input checked="" type="checkbox"/> NH ₃ N	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	NO	HCL, 4 DEG C	(3) 40 ML VIAL		920	032660.0
<input checked="" type="checkbox"/> BN/A	NO	4 DEG C	(2) 1 L AG		923	032660.0
<input checked="" type="checkbox"/> NG	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MC,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

Sample 916
From pump at 100'

SIGNATURE:

TL-THL-11-F

RECEIVED BY:

Kelley

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8202B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-82-02B

JOB NUMBER

6853-04

SAMPLING DATE

4.26.92

LOCATION

ACTIVITY START 1330 END 1500

PROGRAM

C

FILE NAME

CGW

WEATHER

clear, 46°

WATER LEVEL / WELL DATA

WELL DEPTH 154 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

218 FT

PROTECTIVE CASING/WELL DIFF.

-102 FT

WATER DEPTH 139.00 FT

22 GAL/VOL

106

TOTAL GAL PURGED

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐
☐ ☐ ☐

RISER ELEVATION

916.62

GROUNDWATER ELEVATION

777.54

HEIGHT OF WATER COLUMN 14.92 FT

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

21.2 GAL

42.4 GAL

63.6 GAL

84.8 GAL

106 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY μ mhos/cm

PUMP RATE, GPM

11.1

11.0

11.1

11.1

11.2

6.79

6.84

6.91

6.90

6.91

1.16

1.10

1.09

1.08

1.08

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOSS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

914.6

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			925	0326000
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2			925	0326000
NIT	YES	H2SO4 TO pH<2	500 ML POLY		926	0326000
CL	YES	4 DEG C	500 ML POLY		927	
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY		928	
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL		929	0326000
BN/A	NO	4 DEG C	(2) 1 L AG		932	0326000
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CA,SB,AS,BA,BE,CO,CA,CR,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* RESAMPLED ON 4.29.92 FOR METALS AND NIT
(NO PRESERVED ON 4.26.92) PROO

SIGNATURE: [Signature]
RECEIVED BY: [Signature]

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8202C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.26.92

SITE ID ELN-82-02C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1130 END 1300

PROGRAM C

WEATHER OVERCAST 40's

WATER LEVEL / WELL DATA

WELL DEPTH 165 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING PROTECTIVE CASING STICK-UP (FROM GROUND)

2.05 FT

PROTECTIVE CASING/WELL DIFF. -0.03 FT

WATER DEPTH 137.70 FT

28 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER ELEVATION 916.19

HEIGHT OF WATER COLUMN 27.30 FT

28 TOTAL GAL PURGED

GROUNDWATER ELEVATION 778.49

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

28 GAL

GAL

GAL

GAL

GAL

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

14.2

6.39

1.16

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

914.2

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		934	032060C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG S803	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			934	032060C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		935	052510C
CL TT08	YES	4 DEG C	500 ML POLY		936	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		937	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		938	042570C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		941	022801C
NG 99	NO	4 DEG C	1 L AG		942	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

1. ONLY LEFT 1 JOL.

2. Discharge then sample

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

* VERY SLOW RECHARGE RATE

* Recharge on 4/29/92 for METALS + NIT at 1230 (NOT PRESERVED 15 ft)

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN 8203A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.11.92

SITE ID ELN-82-03A

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1130 END 1230

PROGRAM C

WEATHER cloudy, wet, 10°S

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.47 FT
 PROTECTIVE CASING/WELL DIFF. -0.02 FT
 WELL DEPTH 152 FT
☐ MEASURED
☒ HISTORICAL
 WATER DEPTH 150.41 FT
 RISER ELEVATION 927.68
 HEIGHT OF WATER COLUMN 2.5 FT
 TOTAL GAL PURGED 5
 GROUNDWATER ELEVATION 777.27
 PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO
 WELL MATERIAL ☒ PVC ☐ SS
 AMBIENT AIR PPM
 WELL MOUTH PPM
 WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH

PURGE DATA

PURGE VOLUME 5 GAL
 TEMP, DEG C 10.6
 PH, UNITS 7.1
 SPECIFIC CONDUCTIVITY umhos/cm 1038
 PUMP RATE, GPM
 SAMPLE OBSERVATIONS
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ☒
 SUBMERSIBLE PUMP ☒
 BAILER ☒
 PVC/SILICON TUBING ☒
 IN-LINE/DISPOSABLE FILTER ☒
 OTHER ☐
 EQUIPMENT ID ISCO #
 GRUNDFOS #
 2" 4" #
 DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 GROUND ELEVATION 925.7
 NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		943	032660.C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			943	032660.C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY		944	032810.C
CL TT08	YES	4 DEG C	500 ML POLY		945	
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		946	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		947	042870.C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		950	032810.C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Had to pump from bottom of well to get pump to discharge H₂O - purged ~5 gal. before running dry.

SIGNATURE: VM/CK

RECEIVED BY: William E. Rosta

Observational sample collected - little silt and organic particles (ash)

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN8203A

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID ELN-82-03A

JOB NUMBER 6853-04

SAMPLING DATE

LOCATION

ACTIVITY START

END

PROGRAM C

FILE NAME

CGW

WEATHER

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

24 ± FT

PROTECTIVE CASING/WELL DIFF.

-0.02 FT

WELL DEPTH 158 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 150.41 FT

10 GAL/VOL 10

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

927.68

HEIGHT OF WATER COLUMN 7.5 FT

5 TOTAL GAL PURGED (50)

GROUNDWATER ELEVATION

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

2 5 GAL	2 GAL	2 GAL	2 GAL	2 GAL
10.6	/	/	/	/
7.4	/	/	/	/
1033	/	/	/	/

TEMP, DEG C
pH, UNITS ☐ pH PAPER
SPECIFIC CONDUCTIVITY umhos/cm
PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ ☐
☐ ☐
☐ ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

925.7

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		943	
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			943	
NI T10	YES	H2SO ₄ TO pH<2	500 ML POLY		944	
CL T10	YES	4 DEG C	500 ML POLY		945	
SO ₄ T10	YES	4 DEG C			946	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N2 USEPA 350.2	NO	H2SO ₄ TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		947	948
B4/A UM16	NO	4 DEG C	(2) 1 L AG		950	951
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO ₄ TO pH<2	1 L GLM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Had to pump from bottom of well to get pump to discharge water - purged ~ 5 gal. before running dry.

SIGNATURE: Vm/CK

RECEIVED BY:

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

E L N 2 2 0 3 C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID E L N - 1 8 2 - 0 3 C

JOB NUMBER

6853-04

SAMPLING DATE

4 11 92

LOCATION

ACTIVITY

START 0945 END 1100

PROGRAM

C

FILE NAME

CGW

WEATHER

wet, cloudy, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 179 FT

☐ MEASURED
☒ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.7± FT

PROTECTIVE CASING/WELL DIFF.

+0.01 FT

WATER DEPTH 149.84 FT

20 GAL/VOL 20

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION

926.93

HEIGHT OF WATER COLUMN 29 FT

100 TOTAL GAL PURGED

GROUNDWATER ELEVATION

777.09

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

20 GAL

40 GAL

60 GAL

80 GAL

100 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.4

11.2

11.3

11.2

11.9

7.5

7.7

7.6

7.7

7.6

650

616

600

595

590

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GROUND FOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

925.3

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	961	022800
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	962	022800
CA	SS16	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	963	022800
NA	SS16	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	964	022800
CD	SS16	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	965	022800
CR	SS16	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	966	022800
HG	SB03	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	967	022800
PB	SD24	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	968	022800
NI	SS16	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	969	022800
BA	SS16	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	970	022800
HARD	USEPA 130.2	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	971	022800
NIT	TF10	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	972	022800
CL	TT08	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	973	022800
SO ₄	TT08	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	974	022800
ALK	USEPA 310.1	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	975	022800
TDS	USEPA 160.1	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	976	022800
TOC	USEPA 415.1	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>	977	022800
NH ₃ N ₂	USEPA 350.2	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	978	022800
VOC	UM17	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	979	022800
BN/A	UM16	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	980	022800
NG	99	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	981	022800
NAM	UN06	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	982	022800
DNT	UN26	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	983	022800
TPH	USEPA 418.1	H ₂ SO ₄ TO pH<2	1 L GWM	<input checked="" type="checkbox"/>	984	022800

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,X,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* switched order in field - sampled
EUN-82-03C at 0930

SIGNATURE: VM/CK
RECEIVED BY: Marcy E. Rosta

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **ELN 8204A**

PROJECT: **USATHAMA-BAAP**

SITE TYPE: **WELL**

SAMPLING DATE: **4-10-92**

SITE ID: **ELN-182-04A**

JOB NUMBER: **6853-04**

FILE NAME: **CGW**

LOCATION

PROGRAM: **C**

WEATHER: **rain, 40's**

ACTIVITY: **START 0800 END 0830**

WATER LEVEL / WELL DATA

WELL DEPTH: **153 FT**

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND): **2.05 FT**

PROTECTIVE CASING/WELL DIFF.: **Flush FT**

WATER DEPTH: **145.67 FT**

12 GAL/VOL **12**

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION: **923.72**

HEIGHT OF WATER COLUMN: **7.5 FT**

5 TOTAL GAL PURGED

GROUNDWATER ELEVATION: **778.05**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR: **0** PPM

WELL MOUTH: **0** PPM

WELL DIAMETER: **2** INCH
1 1/2 INCH
1 INCH

PURGE DATA

4/9/92 "

PURGE VOLUME

2 GAL **5** GAL **1** GAL **1** GAL **1** GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.7 **11.3**
7.0 **6.9**
849 **695**

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

☐ 2" ☐ 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

921.8

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	970	012280
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	970	012280
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	971	012280
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	972	
SO4 TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	973	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	974	012280
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	975	012280
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	976	012280
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)

TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:1CP)

SIGNATURE: **Jim CK**

RECEIVED BY: **Stanley E. Rosen**

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN822048

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-82-048

JOB NUMBER

6853-04

SAMPLING DATE

4.10.92

LOCATION

ACTIVITY

START 0845

END 0915

PROGRAM

C

FILE NAME

CGW

WEATHER

rain, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 167 FT

MEASURED

HISTORICAL

WATER DEPTH 146.36 FT

HEIGHT OF WATER COLUMN 21 FT

25

GAL/VOL

25.2

11

TOTAL GAL PURGED

11

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.3± FT

PROTECTIVE CASING/WELL DIFF.

-.06 FT

RISER ELEVATION

924.18

GROUNDWATER ELEVATION

777.62

PURGE H₂O CONTAINED? VOC DNT NO

WELL MATERIAL PVC SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH 4 INCH

PURGE DATA

PURGE VOLUME

7 GAL

11 GAL

GAL

GAL

GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

13.1

7.5

543

15.3

7.6

488

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

921.9

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2			977	0328501C
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			979	0122801C
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		980	0528101C
CL	TT08	YES	4 DEG C	500 ML POLY		981	
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		982	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		983	0422701C
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		986	0222101C
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UW26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* Pump near bottom of well - purged dry at ~ 11-12 gal.

SIGNATURE:

VM/CK

RECEIVED BY:

Nancy E. Rott

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN 8204C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID ELN-82-04C

JOB NUMBER 6853-04

SAMPLING DATE 4/10/92

LOCATION ACTIVITY START 0930 END 1000

PROGRAM C

FILE NAME CSW

WEATHER rain, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 175 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.2 ± FT

PROTECTIVE CASING/WELL DIFF.

Flush

WATER DEPTH 146.49 FT

30.5 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

923.73

HEIGHT OF WATER COLUMN 28.5 FT

8.5 TOTAL GAL PURGED

GROUNDWATER ELEVATION

777.24

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

4/9/92

PURGE VOLUME

2.33 GAL

4.5 GAL

6.5 GAL

8.5 GAL

0 GAL

TEMP, DEG C

12.9

13.1

12.9

13.0

PH, UNITS ☐ PH PAPER

7.6

7.5

7.6

7.4

SPECIFIC CONDUCTIVITY umhos/cm

540

511

522

497

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

SUBMERSIBLE PUMP

GRUNDFOS #

BAILER

☐ 2" ☐ 4" #

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

921.5

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA	YES	HNO ₃ TO pH<2				
NA	YES	HNO ₃ TO pH<2				
CO	YES	HNO ₃ TO pH<2				
CR	YES	HNO ₃ TO pH<2				
HG	YES	HNO ₃ TO pH<2				
PB	YES	HNO ₃ TO pH<2				
NI	YES	HNO ₃ TO pH<2				
BA	YES	HNO ₃ TO pH<2				
HARD	YES	HNO ₃ TO pH<2				
NIT	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO ₄	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H ₂ SO ₄ TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Vm/CK

RECEIVED BY:

Walter E. Roper

ABB ENVIRONMENTAL SERVICES, INC.

PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

ELN 82-03B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID ELN-82-03B

JOB NUMBER

6853-04

SAMPLING DATE

4.11.92

LOCATION

ACTIVITY START 0830 END 0930

PROGRAM

C

FILE NAME

CGW

WEATHER

wet, cloudy, 40's

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

2.0 ± FT

PROTECTIVE

+ 06 FT

WELL DEPTH 168 FT

☐ MEASURED

☒ TOP OF CASING

CASING STICK-UP

(FROM GROUND)

CASING/WELL DIFF.

+ 06 FT

WATER DEPTH 150.39 FT

☒ HISTORICAL

23 GAL/VOL

WELL INTEGRITY:

YES NO N/A

RISER

ELEVATION 927.45

HEIGHT OF

23

GAL/VOL

PROT. CASING SECURE

☒

GROUNDWATER

ELEVATION 777.06

WATER COLUMN ~ 18 FT

~ 116

TOTAL GAL PURGED

CONCRETE COLLAR INTACT

☒

WELL LOCKED

☒

PURGE H₂O CONTAINED?

☐ VCC ☐ DNT ☒ NO

WELL MATERIAL

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

2 INCH

PURGE DATA

PURGE VOLUME

23 GAL

46 GAL

69 GAL

92 GAL

116 GAL

TEMP, DEG C

11.0

11.6

11.6

11.5

10.1

PH, UNITS

7.2

7.2

7.2

7.2

7.3

SPECIFIC CONDUCTIVITY μ mhos/cm

1104

1018

958

960

879

PUMP RATE, GPM

1 gpm

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

POTABLE WATER

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

GROUND ELEVATION

925.5

SUBMERSIBLE PUMP

GRUNDFOS#

LIQUINOX

FLOAT ACTIVATED

BAILER

2" 4" #

STEAM CLEANING

PRESSURE TRANSDUCER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		952	012280.C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			952	012280.C
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY		953	012280.C
CL TT08	YES	4 DEG C	500 ML POLY		954	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		955	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		956	012280.C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		957	
NG 99	NO	4 DEG C	1 L AG		958	012280.C
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,X,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

*switched order in field - sampled
ELN-82-03B at 1100

SIGNATURE:

Vm/CK

RECEIVED BY:

Marcy E. Roria

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

RPM91101

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID RPM-91-01

JOB NUMBER 6853-04

SAMPLING DATE 1/22/92

LOCATION ACTIVITY START 11:30 END 12:30

PROGRAM C

FILE NAME CGW

WEATHER CLOUDY

WATER LEVEL / WELL DATA

WELL DEPTH 108 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.7 ± FT

PROTECTIVE
CASING/WELL DIFF.

-0.21 FT

WATER DEPTH 160.15 FT

13 GAL/VOL

13

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES
NO
N/A

RISER
ELEVATION

873.96

HEIGHT OF
WATER COLUMN 7.75 FT

666 TOTAL GAL PURGED

66

GROUNDWATER
ELEVATION

773.71

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL
DIAMETER 2 INCH
4 INCH

PURGE DATA

PURGE VOLUME

13 GAL

13.6 GAL

11.1 GAL

11.1 GAL

11.1 GAL

TEMP, DEG C

10.1

10.8

11.1

11.1

11.1

PH, UNITS PH PAPER

7.5

7.5

7.5

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

578

582

582

584

585

PUMP RATE, GPM

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEFS#
4" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

871.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
CNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/T11

RECEIVED BY: Paul R. Kuster

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **RPM8901**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **4/15/92**

SITE ID **RPM-89-01**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION ACTIVITY **START 0800 END 0900**

PROGRAM **C**

WEATHER **wet, rain, 40° S**

WATER LEVEL / WELL DATA

☒ TOP OF WELL PROTECTIVE TOP OF CASING CASING STICK-UP (FROM GROUND) **2.7** FT. PROTECTIVE CASING/WELL DIFF. **2.2** FT.

WELL DEPTH **126.5** FT. ☐ MEASURED ☒ HISTORICAL

WATER DEPTH **113.97** FT. **20** GAL/VOL **(21.5)** WELL INTEGRITY: YES NO N/A

HEIGHT OF WATER COLUMN **13** FT. **100** TOTAL GAL PURGED **(108)** CONCRETE COLLAR INTACT ☒ YES ☐ NO ☐ N/A

RISER ELEVATION **888.65**

GROUNDWATER ELEVATION **774.68**

PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO ☒ XPVC ☐ SS AMBIENT AIR **—** PPM WELL MOUTH **—** PPM

WELL DIAMETER ☐ 2 INCH ☒ 4 INCH ☐ 6 INCH

PURGE DATA

PURGE VOLUME	@ 20 GAL	@ 40 GAL	@ 60 GAL	@ 80 GAL	@ 100 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C	11.0	10.7	10.7	10.7	10.8	<input checked="" type="checkbox"/> CLEAR
PH, UNITS <input type="checkbox"/> PH PAPER	6.7	6.4	6.6	6.6	6.6	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY umhos/cm	531	550	553	540	1632	<input type="checkbox"/> COLORED
PUMP RATE, GPM	3.5					<input type="checkbox"/> TURBID
						<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

EQUIPMENT ID **ISCO #** **GRUNDEOS# X** **2" 4" #**

DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

GROUND ELEVATION **886.2**

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL			
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC UM-33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]* / DL
RECEIVED BY: *Nancy E. Rota*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **RPM 8902**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SAMPLING DATE **2/15/92**

SITE ID **RPM-89-02**

JOB NUMBER **6853-04**

FILE NAME **CGW**

LOCATION

PROGRAM **C**

WEATHER **CLEAR 22°C 45°**

ACTIVITY **START 0900 11/2 END 1000 1500**

WATER LEVEL / WELL DATA

WELL DEPTH **114** FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) **2.0** FT

PROTECTIVE CASING/WELL DIFF. **2.1** FT

WATER DEPTH **100.0** FT

23 GAL/VOL **(23)**

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
PVC WELL CAP ☒ ☐ ☐

RISER ELEVATION **874.76**

HEIGHT OF WATER COLUMN **114** FT

116 TOTAL GAL PURGED **(116)**

GROUNDWATER ELEVATION **774.74**

PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR **3.4** PPM

WELL MOUTH **3.4** PPM

WELL DIAMETER ☒ 2 INCH ☐ 4 INCH

PURGE DATA

PURGE VOLUME

3.19 @ **23** GAL **3.26** @ **46** GAL **3.34** @ **69** GAL **3.42** @ **92** GAL **3.50** @ **115** GAL

TEMP, DEG C

11.0 **10.7** **10.6** **10.6** **10.3**

PH, UNITS ☐ PH PAPER

7.10 **7.30** **7.42** **7.47** **7.45**

SPECIFIC CONDUCTIVITY umhos/cm

592 **595** **595** **590** **597**

PUMP RATE, GPM

3

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS# **ABD 452**
☒ 2" ☐ 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☒ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

873.0

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VCC UM35	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 413.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *James E. Cate*

RECEIVED BY: *Ken R. Bush*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER NPM 89101

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/14/92

SITE ID NPM-89-01

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0800 END 0900

PROGRAM C

WEATHER CLOUDY 30°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1.6 FT

PROTECTIVE CASING/WELL DIFF. -0.32 FT

WELL DEPTH 100 FT ☐ MEASURED ☒ HISTORICAL

WATER DEPTH 86.76 FT

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
PVC WELL CAP ☒ ☐ ☐

HEIGHT OF WATER COLUMN ~13 FT

RISER ELEVATION 862.77

GROUNDWATER ELEVATION 776.01

PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO ☒ PVC ☐ SS

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ INCH

PURGE DATA

PURGE VOLUME	@ 21 GAL	@ 42 GAL	@ 63 GAL	@ 84 GAL	@ 104 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C	<u>10.6</u>	<u>10.3</u>	<u>10.3</u>	<u>10.5</u>	<u>10.2</u>	<input checked="" type="checkbox"/> CLEAR
PH, UNITS <input type="checkbox"/> CH PAPER	<u>7.4</u>	<u>7.4</u>	<u>7.4</u>	<u>7.5</u>	<u>7.6</u>	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$	<u>587</u>	<u>585</u>	<u>588</u>	<u>582</u>	<u>585</u>	<input type="checkbox"/> COLORED
PUMP RATE, GPM <u>~5 gpm</u>						<input type="checkbox"/> TURBID
						<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒ EQUIPMENT ID ISCO #

SUBMERSIBLE PUMP ☒ GRUNDFOS #

BAILER ☒ 2" 4" #

PVC/SILICON TUBING ☒

IN-LINE/DISPOSABLE FILTER ☒

OTHER ☐

DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

GROUND ELEVATION 861.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NI7 TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TP- USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GUM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, VA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Vin/CK
RECEIVED BY: Wendy E. Potter

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **NAN 8101A**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **NAN-81-01A**

JOB NUMBER **6853-04**

SAMPLING DATE **4-12-92**

LOCATION ACTIVITY **START 1245 END 1400**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **Good weather**

WATER LEVEL / WELL DATA

WELL DEPTH **141** FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP
(FROM GROUND) **2.31** FT

PROTECTIVE CASING/WELL DIFF. **+3.1** FT

WATER DEPTH **136.47** FT

8.5 GAL/VOL **(25)**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☒ ☒

RISER ELEVATION **913.50**

HEIGHT OF WATER COLUMN **4.5** FT

42 TOTAL GAL PURGED **(42)**

GROUNDWATER ELEVATION **777.03**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **0** PPM

WELL MOUTH **0** PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME	8.5 GAL	17 GAL	25.5 GAL	34 GAL	42 GAL
TEMP, DEG C	11.2	11.5	11.4	11.7	11.5
PH, UNITS <input type="checkbox"/> PH PAPER	7.5	7.4	7.5	7.5	7.5
SPECIFIC CONDUCTIVITY μ mhos/cm	678	667	659	667	668
PUMP RATE, GPM					

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
☐ 2" ☐ 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUIDIX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

908.32

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> CA	SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1714	032650.0
<input checked="" type="checkbox"/> NA	SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> CD	SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> CR	SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> HG	SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> PB	SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1714	032650.0
<input checked="" type="checkbox"/> NI	SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> BA	SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1714	032650.0
<input checked="" type="checkbox"/> NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1715	032650.0
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1716	
<input checked="" type="checkbox"/> SO ₄	TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1717	
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> NH ₃ N ₂	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> VOC	um33	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	1718	042375.0
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1719	
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: **VGL/CLK**

RECEIVED BY: **Murray E. R...**

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

NAN 8102B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID NAN-81-02B

JOB NUMBER

6853-04

SAMPLING DATE 4.16.92

LOCATION ACTIVITY START 1415 END 1530

PROGRAM

C

FILE NAME CGW

WEATHER Sunny, 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.1 ± FT

PROTECTIVE CASING/WELL DIFF.

+ .50 FT

WELL DEPTH 145 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 138.01 FT

12 GAL/VOL (11.5)

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

914.79

HEIGHT OF WATER COLUMN 7 FT

58 TOTAL GAL PURGED (58)

GROUNDWATER ELEVATION

776.98

PURGE H₂O CONTAINED?
☐ VCC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

2 12 GAL 2 34 GAL 2 36 GAL 2 42 GAL 2 58 GAL

TEMP, DEG C

10.6 11.7 11.4 11.3 11.2

pH, UNITS ☐ pH PAPER

7.4 7.1 7.4 7.4 7.4

SPECIFIC CONDUCTIVITY umhos/cm

268 130 168 153 153

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

☒ ISCO #
☒ GRUNDFOSS #
☐ 2" ☐ 4" #

SUBMERSIBLE PUMP

ISCO #

POTABLE WATER

ELECTRIC COND. PROBE

~912.5

BAILER

GRUNDFOSS #

LIQUINOX

FLOAT ACTIVATED

~912.5

PVC/SILICON TUBING

2" 4" #

STEAM CLEANING

PRESSURE TRANSDUCER

~912.5

IN-LINE/DISPOSABLE FILTER

2" 4" #

NUMBER OF FILTERS USED

~912.5

~912.5

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1721	0326450C
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2			1721	0326450C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1721	0326450C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1722	0326450C
CL TT08	YES	4 DEG C	500 ML POLY		1723	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1724	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3) 40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VCC UM33	NO	HCL, 4 DEG C (3) 4 ML VIAL			1725	0426450C
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

OTES PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

* Bottom of well extremely silty/mucky

SIGNATURE: VM/CK
RECEIVED BY: Wm. E. Porter

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER NAN 8103B

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.12.92

SITE ID NAN-81-03B

JOB NUMBER 6853-0-

FILE NAME CGW

LOCATION ACTIVITY START 1545 END 1700

PROGRAM C

WEATHER Sunny, 40's

WATER LEVEL / WELL DATA

WELL DEPTH 145 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1.05 FT

PROTECTIVE CASING/WELL DIFF. 1.31 FT

WATER DEPTH 138.36 FT

12 GAL/VOL (11.5)

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 915.21

HEIGHT OF WATER COLUMN 7 FT

58 TOTAL GAL PURGED (58)

GROUNDWATER ELEVATION 776.85

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

@ 12 GAL

@ 24 GAL

@ 36 GAL

@ 48 GAL

@ 58 GAL

TEMP, DEG C

10.2

10.5

10.4

10.3

10.7

PH, UNITS ☐ pH PAPER

7.7

7.5

7.5

7.4

7.5

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

518

500

495

495

500

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED
☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

-913.1

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CA	SS16	YES	HNO ₃ TO pH<2			1728	052670.C
<input type="checkbox"/> NA	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CD	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> CR	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> HG	SB03	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> PB	SD24	YES	HNO ₃ TO pH<2			1728	052670.C
<input type="checkbox"/> NI	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> BA	SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/> HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			1728	052670.C
<input type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1729	052670.C
<input type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		1730	
<input type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1731	
<input type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
<input type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
<input type="checkbox"/> VOC	Um33	NO	HCL, 4 DEG C (3)40 ML VIAL			1732	042870.C
<input type="checkbox"/> BN/A	UM16	NO	4 DEG C (2) 1 L AG				
<input type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input type="checkbox"/> DNT	UW26	NO	4 DEG C	1 L AG			
<input type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: VM/ck

RECEIVED BY: Wmancu E. KOP

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

NAN8103C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID NAN-81-03C

JOB NUMBER

6853-04

SAMPLING DATE

4.13.92

LOCATION

ACTIVITY START 1145 END 1300

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy, 30°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.4

FT

PROTECTIVE CASING/WELL DIFF.

0.3

FT

WELL DEPTH 170 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 138.04 FT

35 GAL/VOL

34

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER ELEVATION

915.02

HEIGHT OF WATER COLUMN

32

FT

175

TOTAL GAL PURGED

170

GROUNDWATER ELEVATION

776.98

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

35 GAL

70 GAL

105 GAL

140 GAL

175 GAL

TEMP, DEG C

10.1

10.7

10.8

10.2

10.7

PH, UNITS ☐ PH PAPER

7.31

7.3

7.3

7.2

7.2

SPECIFIC CONDUCTIVITY umhos/cm

129

139

131

130

131

PUMP RATE, GPM

2.8

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS# X

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

913.2

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		1735	032610C
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2			1735	032610C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1735	032610C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1736	052310C
CL TT08	YES	4 DEG C	500 ML POLY		1737	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1738	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1739	0428701C
BA/NA UM16	NO	4 DEG C	(2) 1 L AG		1740	
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

[Signature]
Manny E. Rector

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **NAN8104B**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **NAN-81-04B**

JOB NUMBER **6853-04**

SAMPLING DATE **4/14/92**

LOCATION ACTIVITY **START 0800 END 0830**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **Cloudy 30%**

WATER LEVEL / WELL DATA

WELL DEPTH **156** FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) **1.8** FT

PROTECTIVE CASING/WELL DIFF. **-** FT

WATER DEPTH **1-19.00** FT

12 GAL/VOL **(11.5)**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☒ ☒

RISER ELEVATION **925.91**

GROUNDWATER ELEVATION **776.91**

HEIGHT OF WATER COLUMN **7** FT

60 TOTAL GAL PURGED **(58)**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR **-** PPM

WELL MOUTH **-** PPM

WELL DIAMETER ☒ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

a 12 GAL	a 24 GAL	a 36 GAL	a 48 GAL	a 60 GAL
TEMP, DEG C 10.0	10.4	10.6	10.7	10.7
PH, UNITS 6.6	7.7	7.8	7.7	7.7
SPECIFIC CONDUCTIVITY 1008 umhos/cm	100	1006	536	594
PUMP RATE, GPM 4.3				

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLGRED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒
SUBMERSIBLE PUMP ☒
BAILER ☒
PVC/SILICON TUBING ☒
IN-LINE/DISPOSABLE FILTER ☒
OTHER ☐

EQUIPMENT ID
ISCO # **GRUNDEOS# 2**
2" 4" # **2**

DECON FLUIDS USED
☒ POTABLE WATER
☒ LIQUINOX
☒ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☒ FLOAT ACTIVATED
☒ PRESSURE TRANSDUCER

GROUND ELEVATION **~922.1**

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1742	0326601C
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1742	0326601C
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1742	0326601C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1743	0528101C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1744	
SO ₄ TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1745	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2 (3)40 ML VIAL		<input checked="" type="checkbox"/>		
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2 500 ML POLY		<input checked="" type="checkbox"/>		
VOC um33	NO	HCL, 4 DEG C (3)40 ML VIAL		<input checked="" type="checkbox"/>	1746	0428301C
BN/A UM16	NO	4 DEG C (2) 1 L AG		<input checked="" type="checkbox"/>	1747	
NG 99	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>		
NAM UN06	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C 1 L AG		<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2 1 L GWM		<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SE, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *J. Ramon / DL*
RECEIVED BY: *Wendy E. Kotter*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

NAN 81104C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID NAN-81-04C

JOB NUMBER

6853-04

SAMPLING DATE 4.14.92

LOCATION

ACTIVITY START 0900 END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY 30s

WATER LEVEL / WELL DATA

WELL DEPTH 177 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.75 FT

PROTECTIVE
CASING/WELL DIFF.

.40 FT

WATER DEPTH 148.30 FT

30 GAL/VOL (32)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER
ELEVATION

925.25

HEIGHT OF
WATER COLUMN 29 FT

150 TOTAL GAL PURGED (161)

GROUNDWATER
ELEVATION

776.95

PURGE H₂O CONTAINED?
VCC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL
DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 30 GAL

@ 60 GAL

@ 90 GAL

@ 120 GAL

@ 150 GAL

TEMP, DEG C

PH, UNITS PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.46

10.6

10.7

10.4

10.5

7.50

7.3

7.5

7.3

7.5

451

455

453

454

455

2.8

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

IS60 #
GRUNDFOS #
3" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

~922.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2		1749		0326601C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2		1749		0326601C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2		1749		0326601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1750		0528101C
CL TT08	YES	4 DEG C	500 ML POLY	1751		
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1752		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC Um33	NO	HCL, 4 DEG C (3)40 ML VIAL		1753	1754	1755
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

J. DeLeonardis/DL

RECEIVED BY:

W. Nancy E. Porter

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **OPM8901**

PROJECT **USATHAMA-GAAP**

SITE TYPE **WELL**

SITE ID **OPM-89-01**

JOB NUMBER **6853-04**

SAMPLING DATE **4/9/92**

LOCATION ACTIVITY **START 1045 END 1200**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **partly clear**

WATER LEVEL / WELL DATA

WELL DEPTH **88** FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) **2.1** FT

PROTECTIVE CASING/WELL DIFF. **25** FT

WATER DEPTH **55.90** FT

HEIGHT OF WATER COLUMN **32** FT

GAL/VOL **36.5**

TOTAL GAL PURGED **42**

WELL INTEGRITY:
PROT. CASING SECURE ☒
CONCRETE COLLAR INTACT ☒
WELL LOCKED ☒
PVC WELL CAP ☒

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION **925.99**

GROUNDWATER ELEVATION **870.09**

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR ☐ PPM

WELL MOUTH ☐ PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

15 GAL

35 GAL

15 GAL

15 GAL

15 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY μ mhos/cm

PUMP RATE, GPM

11.2
7.6
917

11.3
7.5
772

11.2
7.6
917

11.3
7.5
772

11.2
7.6
917

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRANDES#

☒ 2" ☐ 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

924.3

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1510	0122301C
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>	1510	0122301C
WIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	1511	0702101C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1512	
SO ₄ TT08	YES	4 DEG C		<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	1513	
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL	<input checked="" type="checkbox"/>		
NH ₃ N ₂ USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL	<input checked="" type="checkbox"/>	1514	0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	1515	
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	1516	
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GW	<input checked="" type="checkbox"/>		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

well ran dry at 42 gallons.
let recharge then sampled. Recharged quickly.

SIGNATURE: *J. Leonard / DL*

RECEIVED BY: *Nancy E. Kofia*

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PAGE ____ OF ____

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER OPM8902

PROJECT: USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.8.92

SITE ID OPM-89-02

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0900 END 1000

PROGRAM C

WEATHER Sunny, 55°

WATER LEVEL / WELL DATA

WELL DEPTH	<u>115</u> FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND)	<u>2.1 ±</u> FT	PROTECTIVE CASING/WELL DIFF.	<u>- .15</u> FT
WATER DEPTH	<u>101.41</u> FT			WELL INTEGRITY:	YES NO N/A	RISER ELEVATION	<u>879.46</u>
HEIGHT OF WATER COLUMN	<u>13.5</u> FT	<u>23</u> GAL/VOL	<u>115</u> TOTAL GAL PURGED	PROT. CASING SECURE	<input checked="" type="checkbox"/>	GROUNDWATER ELEVATION	<u>778.05</u>
				CONCRETE COLLAR INTACT	<input checked="" type="checkbox"/>		
				WELL LOCKED	<input checked="" type="checkbox"/>		
				PVC WELL CAP	<input checked="" type="checkbox"/>		
PURGE H ₂ O CONTAINED?	<input type="checkbox"/> VOC <input type="checkbox"/> DNT <input checked="" type="checkbox"/> NO	WELL MATERIAL	<input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	AMBIENT AIR	<u>0</u> PPM	WELL MOUTH	<u>0</u> PPM
						WELL DIAMETER	<input checked="" type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> INCH

PURGE DATA

PURGE VOLUME	<u>23</u> GAL	<u>46</u> GAL	<u>69</u> GAL	<u>92</u> GAL	<u>115</u> GAL	SAMPLE OBSERVATIONS <input checked="" type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	<u>10.4</u>	<u>10.4</u>	<u>10.4</u>	<u>10.4</u>	<u>10.4</u>	
PH, UNITS <input type="checkbox"/> PH PAPER	<u>7.7</u>	<u>7.7</u>	<u>7.7</u>	<u>7.7</u>	<u>7.7</u>	
SPECIFIC CONDUCTIVITY umhos/cm	<u>384</u>	<u>384</u>	<u>385</u>	<u>385</u>	<u>385</u>	
PUMP RATE, GPM <u>~ 2.5</u>						

EQUIPMENT DOCUMENTATION

PURGING	<input checked="" type="checkbox"/>	SAMPLING	<input checked="" type="checkbox"/>	EQUIPMENT ID	ISCO #	DECON FLUIDS USED	<input checked="" type="checkbox"/> POTABLE WATER <input type="checkbox"/> LIQUINOX <input type="checkbox"/> STEAM CLEANING	WATER LEVEL EQUIP. USED	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE <input type="checkbox"/> FLOAT ACTIVATED <input type="checkbox"/> PRESSURE TRANSDUCER	GROUND ELEVATION	<u>877.6</u>
				PERISTALTIC PUMP							
				SUBMERSIBLE PUMP							
				BAILER	<input type="checkbox"/> 2" <input type="checkbox"/> 4" #						
				PVC/SILICON TUBING							
				IN-LINE/DISPOSABLE FILTER							
				OTHER							
						NUMBER OF FILTERS USED					

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2			<u>1519</u>	<u>0222501C</u>
NA	SS16	YES	HNO ₃ TO pH<2				
CD	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
NIIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		<u>1519</u>	<u>0222501C</u>
CL	TT08	YES	4 DEG C	500 ML POLY		<u>1520</u>	<u>05231010</u>
SO4	TT08	YES	4 DEG C			<u>1521</u>	
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		<u>1522</u>	
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	UM17	NO	HCL, 4 DEG C	(3) 40 ML VIAL		<u>1523</u>	<u>0212301C</u>
BN/A	UM16	NO	4 DEG C	(2) 1 L AG		<u>1524</u>	
NG	99	NO	4 DEG C	1 L AG		<u>1525</u>	
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UW26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(Al,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Vm/CK
RECEIVED BY: Wmancy E. Roro

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PAGE OF

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER 0PM89103

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 0PM-89-03

JOB NUMBER 6853-04

SAMPLING DATE 4.8.92

LOCATION ACTIVITY START 1330 END 1430

PROGRAM C

FILE NAME CGW

WEATHER cloudy, 50's

WATER LEVEL / WELL DATA

WELL DEPTH <u>164</u> FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input checked="" type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND) <u>2.0</u> FT	PROTECTIVE CASING/WELL DIFF. <u>0.24</u> FT
WATER DEPTH <u>152.75</u> FT			WELL INTEGRITY: PROT. CASING SECURE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	RISER ELEVATION <u>929.75</u>
HEIGHT OF WATER COLUMN <u>12</u> FT	<u>20</u> GAL/VOL	<u>15.5</u>	CONCRETE COLLAR INTACT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	GROUNDWATER ELEVATION <u>777.00</u>
PURGE H ₂ O CONTAINED? <input type="checkbox"/> VOC <input type="checkbox"/> DNT <input checked="" type="checkbox"/> NO	WELL MATERIAL <input type="checkbox"/> PVC <input checked="" type="checkbox"/> SS	AMBIENT AIR <u>0</u> PPM	WELL MOUTH <u>0</u> PPM	WELL DIAMETER <input checked="" type="checkbox"/> 2 INCH <input type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH

PURGE DATA

PURGE VOLUME	<u>20</u> GAL	<u>0</u> GAL	<u>0</u> GAL	<u>0</u> GAL	<u>0</u> GAL
TEMP, DEG C	<u>13.5</u>				
PH, UNITS <input type="checkbox"/> PH PAPER	<u>7.8</u>				
SPECIFIC CONDUCTIVITY μ mo/cm	<u>545</u>				
PUMP RATE, GPM					

SAMPLE OBSERVATIONS:
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING <input checked="" type="checkbox"/>	SAMPLING <input checked="" type="checkbox"/>	EQUIPMENT ID PERISTALTIC PUMP <u>ISCO #</u> SUBMERSIBLE PUMP <u>GRUNDEOS# X</u> BAILER <u>2" 4" #</u> PVC/SILICON TUBING IN-LINE/DISPOSABLE FILTER OTHER	DECON FLUIDS USED <input checked="" type="checkbox"/> POTABLE WATER <input type="checkbox"/> LIQUINOX <input type="checkbox"/> STEAM CLEANING	WATER LEVEL EQUIP. USED <input checked="" type="checkbox"/> ELECTRIC COND. PROBE <input type="checkbox"/> FLOAT ACTIVATED <input type="checkbox"/> PRESSURE TRANSDUCER	GROUND ELEVATION <u>928.2</u>
---	--	--	--	---	-------------------------------

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1528	07228010
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1528	07228010
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1529	07031010
CL TT08	YES	4 DEG C	500 ML POLY		1530	
SO4 TT08	YES	4 DEG C	500 ML POLY		1531	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL			1532	04228010
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

Initially put pump on bottom and purge to dryness, pretty slowly. We tried bringing the pump up and pumping but it quit quickly after 1 volume. Pumped 250 gallons total. Sampled after 1 volume.

SIGNATURE: J. Plamann
 RECEIVED BY: Nancy E. Rofka

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER 0AM911011

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.14.92

SITE ID 0AM-91-011

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 16:30 END 17:00

PROGRAM C

WEATHER CLOUDY 30°

WATER LEVEL / WELL DATA

WELL DEPTH 98 FT ☐ MEASURED ☒ HISTORICAL

WATER DEPTH 91.36 FT

HEIGHT OF WATER COLUMN ~7 FT

11.5 GAL/VOL (11.5)

55 TOTAL GAL PURGED (55)

TOP OF WELL ☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1.7± FT

PROTECTIVE CASING/WELL DIFF. -1.3 FT

WELL INTEGRITY: YES NO N/A

PROT. CASING SECURE ☒ ☐ ☐

CONCRETE COLLAR INTACT ☒ ☐ ☐

WELL LOCKED ☒ ☐ ☐

PVC WELL CAP ☒ ☐ ☐

PURGE H2O CONTAINED? ☐ VOC ☐ DNT ☒ NO ☒ PVC ☐ SS

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ INCH

RISER ELEVATION 877.04

GROUNDWATER ELEVATION 785.68

PURGE DATA

PURGE VOLUME	a 11 GAL	a 22 GAL	a 33 GAL	a 44 GAL	a 55 GAL	SAMPLE OBSERVATIONS
TEMP, DEG C	10.0	10.4	10.5	10.4	10.4	<input checked="" type="checkbox"/> CLEAR
PH, UNITS <input type="checkbox"/> pH PAPER	7.6	7.6	7.7	7.7	7.6	<input type="checkbox"/> CLOUDY
SPECIFIC CONDUCTIVITY umhos/cm	480	483	487	485	488	<input type="checkbox"/> COLORED
PUMP RATE, GPM						<input type="checkbox"/> TURBID
						<input type="checkbox"/> ODOR
						<input type="checkbox"/> OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP ☒

SUBMERSIBLE PUMP ☒

BAILER ☒

PVC/SILICON TUBING ☒

IN-LINE/DISPOSABLE FILTER ☒

OTHER ☐

EQUIPMENT ID ISCO # ☒ GRUNDFOSS # ☒ 2" ☐ 4" #

DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

GROUND ELEVATION 875.1

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2		1774		032600C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2		1774		032600C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2		1774		032600C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	1775		052800C
CL TT08	YES	4 DEG C	500 ML POLY	1776		
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	1777		
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL	1778	1779	1780
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: VM/CK

RECEIVED BY: Wmancy E. Rofa

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

0AM8901

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID 0AM-89-011

JOB NUMBER

6853-04

SAMPLING DATE

4/14/92

LOCATION

ACTIVITY START 15:30 END 16:30

PROGRAM

C

FILE NAME

CGW

WEATHER

cloudy 30

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.31 FT

PROTECTIVE CASING/WELL DIFF.

-.09 FT

WELL DEPTH 102.5 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 88.30 FT

23

GAL/VOL

23

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER

ELEVATION

874.38

GROUNDWATER

ELEVATION

786.68

HEIGHT OF

WATER COLUMN

14

116

TOTAL GAL PURGED

116

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

23 GAL

46 GAL

64 GAL

92 GAL

116 GAL

TEMP, DEG C

10.1

10.7

10.6

10.7

10.6

PH, UNITS ☐ PH PAPER

7.6

7.5

7.6

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

725

738

745

741

742

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOSS #
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

872.2

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2		1756	0326601C
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CO	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2		1756	0326601C
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2			
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2		1756	0326601C
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY	1757	0326601C
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY	1758	
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C			
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY	1759	
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C			
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		
<input checked="" type="checkbox"/> VOC	UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL	1760	1761
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG		
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> DNT	UW26	NO	4 DEG C	1 L AG		
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

VM/CK

RECEIVED BY:

Nancy E. Poria

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

0 A M 8 9 0 2

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID 0 A M - 8 9 - 0 2

JOB NUMBER

6853-04

SAMPLING DATE

4 15-92

LOCATION

ACTIVITY START 0800 END 0900

PROGRAM

C

FILE NAME

CGW

WEATHER

rain, 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE CASING STICK-UP

2.71 FT

PROTECTIVE CASING/WELL DIFF.

- .32 FT

WELL DEPTH 102.5 FT

☐ MEASURED

☒ HISTORICAL

WATER DEPTH 81.13 FT

21

GAL/VOL

(21.5)

WELL INTEGRITY:

YES

NO

N/A

RISE ELEVATION

874.91

HEIGHT OF WATER COLUMN 13 FT

108

TOTAL GAL PURGED

(108)

PROCT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

GROUNDWATER ELEVATION

785.78

PURGE AND CONTAMINANT

☐ VOC

☐ DNT

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

☒ 2 INCH

☐ 4 INCH

☐ 1 INCH

PURGE DATA

PURGE VOLUME

@ 22 GAL

@ 44 GAL

@ 66 GAL

@ 88 GAL

@ 108 GAL

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

TEMP, DEG C

10.4

11.5

11.6

11.5

11.4

PH, UNITS

☐ PH PAPER

7.1

7.5

7.5

7.5

7.5

SPECIFIC CONDUCTIVITY umhos/cm

648

679

693

681

681

PUMP RATE, GPM

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP

☒ SUBMERSIBLE PUMP

☒ BAILER

☒ PVC/SILICON TUBING

☒ IN-LINE/DISPOSABLE FILTER

☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

872.4

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			1765	032601C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2			1765	032601C
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1765	032601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1766	052810C
CL TT08	YES	4 DEG C	500 ML POLY		1767	
SC4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1768	
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1769	1770
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1771	042370C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

vm/ck

RECEIVED BY:

Nancy E. Rotta

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

FTM8901

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID FTM-89-011

JOB NUMBER

6853-04

SAMPLING DATE 4/21/92

LOCATION ACTIVITY START 1400 END 1500

PROGRAM

C

FILE NAME CGW

WEATHER Cloudy, 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.0 FT

PROTECTIVE CASING/WELL DIFF. -0.2 FT

WELL DEPTH 101.5 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 88.62 FT

22 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 874.27

HEIGHT OF WATER COLUMN 12.85 FT

108 TOTAL GAL PURGED

GROUNDWATER ELEVATION 785.65

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 20 PPM

WELL MOUTH 20 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME	22 GAL	44 GAL	66 GAL	88 GAL	108 GAL
TEMP, DEG C	11.0	11.1	11.3	10.6	11.2
pH, UNITS	6.9	7.1	7.2	7.2	7.2
SPECIFIC CONDUCTIVITY μ mhos/cm	1000	1000	985	1000	997
PUMP RATE, GPM					

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ CODR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

RECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

272.4

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1792	1793
CL TT08	YES	4 DEG C	500 ML POLY		1794	
SO4 TT08	YES	4 DEG C			1795	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1796	1797
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1799	1800
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM		1801	

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,S803,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: TH-CK
RECEIVED BY: Paul L. Rusten

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN9101C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-91-01C

JOB NUMBER

6853-04

SAMPLING DATE

4/24/92

LOCATION

ACTIVITY

START 1230

END 1600

PROGRAM

C

FILE NAME

CGW

WEATHER

RAIN 40%

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☐ TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

2.35 FT

PROTECTIVE

CASING/WELL DIFF.

-16 FT

WELL DEPTH

154.5 FT

☐ MEASURED

☒ HISTORICAL

WATER DEPTH

85.95 FT

64 GAL/VOL

64

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

830.04

HEIGHT OF

WATER COLUMN

68.6 FT

320

TOTAL GAL PURGED

320

GROUNDWATER

ELEVATION

744.04

PURGE H₂O CONTAINED?

☐ VOC

☐ DNT

☐ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL

DIAMETER

☐ 2 INCH

☒ 4 INCH

☐ 1 INCH

PURGE DATA

PURGE VOLUME

1:30

1:56

2:22

2:48

3:14

@ 69 GAL

@ 128 GAL

@ 192 GAL

@ 256 GAL

@ 320 GAL

TEMP, DEG C

PH, UNITS

☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.05

11.0

11.0

11.2

11.2

7.71

7.73

7.74

7.74

7.74

709

706

710

714

716

42.5

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐

☐

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PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

DECON FLUIDS USED

☒ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

828.0

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CO	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VCC	NO	NCL, 4 DEG C	(3)40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Carly R. Pevy

RECEIVED BY:

Bob R. Pevy

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 9102B

PROJECT USATHAMA-SAAP

SITE TYPE

WELL

SITE ID PBN-91-02B

JOB NUMBER

6853-04

SAMPLING DATE 4/28/92

LOCATION

PROGRAM

C

FILE NAME CGW

ACTIVITY START 1530 END 1700

WEATHER Sunny

WATER LEVEL / WELL DATA

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.15 FT

PROTECTIVE CASING/WELL DIFF.

1.14 FT

WELL DEPTH 118 FT

☒ MEASURED
☐ HISTORICAL

WATER DEPTH 77.35 FT

43 GAL/VOL 43

WELL INTEGRITY:

YES NO N/A

RISER ELEVATION

821.20

HEIGHT OF WATER COLUMN 40.7 FT

214 TOTAL GAL PURGED

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

GROUNDWATER ELEVATION

743.85

PURGE H2O CONTAINED?

☐ VCC ☐ DNT ☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

2.33 @ 43 GAL 2.36 @ 86 GAL 2.49 @ 129 GAL 3.02 @ 172 GAL 3.15 @ 214 GAL

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

TEMP, DEG C

11.5 11.3 11.5 11.6 11.7

PH, UNITS ☐ PH PAPER

7.72 7.57 7.73 7.76 7.76

SPECIFIC CONDUCTIVITY umhos/cm

704 75 714 711 701

PUMP RATE, GPM

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DECON FLUIDS USED

☐ POTABLE WATER

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

GROUND ELEVATION

819.0

SUBMERSIBLE PUMP

GRUNDFOS # HAZO 1

☐ LIQUINOX

☐ FLOAT ACTIVATED

BAILER

☒ 2" ☐ 4" #

☐ STEAM CLEANING

☐ PRESSURE TRANSDUCER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
<input type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input type="checkbox"/> VOC	UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
<input type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
<input type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input type="checkbox"/> DNT	UN25	NO	4 DEG C	1 L AG			
<input type="checkbox"/> TPH	USEPA 419.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:1CP)

SIGNATURE: *George R. Kelly*

RECEIVED BY: *Karl R. Runtz*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 9102C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.28.92

SITE ID PBN-91-02C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 1300 END 1500

PROGRAM C

WEATHER Sunny - 50°

WATER LEVEL / WELL DATA

WELL DEPTH 163.5 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.27 FT

PROTECTIVE CASING/WELL DIFF.

- 18 FT

WATER DEPTH 78.03 FT

76 GAL/VOL 76

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 221.92

HEIGHT OF WATER COLUMN 85.5 FT

379 TOTAL GAL PURGED

GROUNDWATER ELEVATION 743.84

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

12.98 @ 76 GAL

12.37 @ 158 GAL

12.56 @ 234 GAL

13.05 @ 310 GAL

13.34 @ 380 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

12.1

11.7

11.9

11.6

11.5

7.75

7.86

7.90

7.88

7.83

6.2

6.27

6.66

6.30

6.20

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# HAZZ 1
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

819.9

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2			1867	0326601C
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1867	0326601C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1868	0326601C
CL TT08	YES	4 DEG C	500 ML POLY		1869	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1870	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1871	0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1874	0228101C
NG 99	NO	4 DEG C	1 L AG		1875	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *James E. Carter* ICP

RECEIVED BY: *Robert R. Brant*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 9110318

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE

4-28-92

SITE ID PBN-911-0318

JOB NUMBER

6853-04

FILE NAME

CGW

LOCATION

PROGRAM

C

ACTIVITY START 1130 END 1330

WEATHER

SUNNY

WATER LEVEL / WELL DATA

TOP OF WELL
TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.14
1.45 FT

PROTECTIVE CASING/WELL DIFF.

2.14
2 FT

WELL DEPTH 108.5 FT

MEASURED
HISTORICAL

WATER DEPTH 71.95 FT

42 GAL/VOL 42

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER ELEVATION

814.72

HEIGHT OF WATER COLUMN 36.6 FT

209 TOTAL GAL PURGED

GROUNDWATER ELEVATION

742.77

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER 2 INCH
2 INCH
1 INCH

PURGE DATA

PURGE VOLUME

10 32 @ 42 GAL 10 42 @ 84 GAL 10 52 @ 126 GAL 11 02 @ 168 GAL 11 12 @ 209 GAL

TEMP, DEG C

pH, UNITS pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

12.0	11.6	11.6	11.6	11.5
7.69	7.70	7.75	7.72	7.72
673	555	658	657	658
4				

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# HA2co 1
2" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

812.7

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TC, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN9103C

PROJECT USATHAMA-SAAP

SITE TYPE WELL

SAMPLING DATE 4-28-92

SITE ID PBN-91-03C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0800 END 1100

PROGRAM C

WEATHER SUN-50's

WATER LEVEL / WELL DATA

WELL DEPTH 154.5 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.11 FT

PROTECTIVE CASING/WELL DIFF. -0.14 FT

WATER DEPTH 71.4 FT

74 GAL/VOL 74

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 814.37

HEIGHT OF WATER COLUMN 83.1 FT

36.9 TOTAL GAL PURGED 36.9

GROUNDWATER ELEVATION 742.47

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ 1 INCH

PURGE DATA

PURGE VOLUME

08 33 08 52 09 11 09 27 09 48 10 06

TEMP, DEG C
PH, UNITS ☐ PH PAPER
SPECIFIC CONDUCTIVITY umhos/cm
PUMP RATE, GPM

08 33	08 52	09 11	09 27	09 48	10 06
11.3	10.9	10.5	11.4	11.3	
7.10	7.74	7.79	7.78	7.80	
545	550	553	552	562	
4					

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS# 114240
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

812.3

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CO SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
MG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO ₄ TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *James E. Carter* JEC

RECEIVED BY: *Robert P. Rustad*

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM9001D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/24/92

SITE ID PBM-90-01D

JOB NUMBER 6853-C

FILE NAME CGW

LOCATION ACTIVITY START 1300 END 1200

PROGRAM C

WEATHER RAIN 40's

WATER LEVEL / WELL DATA

WELL DEPTH 214 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.43 FT

PROTECTIVE CASING/WELL DIFF. 20 FT

WATER DEPTH 87.2 FT

102 GAL/VOL 102

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
PVC WELL CAP ☒ ☐ ☐

RISER ELEVATION 831.53

HEIGHT OF WATER COLUMN 126.8 FT

510 TOTAL GAL PURGED 510

GROUNDWATER ELEVATION 744.33

PURGE H2O CONTAINED? ☐ VCC ☐ DNT ☒ NO

WELL MATERIAL ☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

116 142 208 234 300
2102 GAL 204 GAL 306 GAL 408 GAL 510 GAL

TEMP, DEG C

11 10.4 10.5 11.1 11.2

pH, UNITS ☐ pH PAPER

7.51 7.78 7.79 7.81 7.82

SPECIFIC CONDUCTIVITY umhos/cm

652 659 641 659 642

PUMP RATE, GPM

4

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI T10	YES	H2SO4 TO pH<2	500 ML POLY			
CL T108	YES	4 DEG C	500 ML POLY			
SO4 T108	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VCC UM33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BA/NA UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 TO pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE Gary R. Pollock

RECEIVED BY: Ted K. Ruck

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM9002D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.28.92

SITE ID PBM-90-02D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY

START 1300 END 1530

PROGRAM C

WEATHER SUNNY 50%

WATER LEVEL / WELL DATA

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.28 FT

PROTECTIVE CASING/WELL DIFF.

+ .21 FT

WELL DEPTH 207 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 776 FT

104 GAL/VOL 104

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 821.32

HEIGHT OF WATER COLUMN 129.4 FT

520 TOTAL GAL PURGED

GROUNDWATER ELEVATION 743.72

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.1 PPM

WELL MOUTH 0.1 PPM

WELL DIAMETER ☒ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

12 08 12 34 13 00 13 26 13 52 14 08

PURGE VOLUME @ 104 GAL @ 208 GAL @ 312 GAL @ 416 GAL @ 520 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

12.4	11.7	11.9	12.2	11.7
7.9	7.91	7.92	8.03	8.02
431	479	484	453	482
4				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS # 483 Z
2" 4" #

DECON FLUIDS USED
☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN05	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Sam E. Cote*
RECEIVED BY: *Ed R. Fierle*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBM90103D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/28/92

SITE ID PBM-90-03D

JOB NUMBER 6853-C

FILE NAME CGW

LOCATION

PROGRAM C

WEATHER SUNNY 40°

ACTIVITY START 0800 END 1130

WATER LEVEL / WELL DATA

WELL DEPTH 201 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

145 FT

PROTECTIVE
CASING/WELL DIFF.

+ 31 FT

WATER DEPTH 71.95 FT

105 GAL/VOL 11.5

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER
ELEVATION 814.79

HEIGHT OF
WATER COLUMN 129.1 FT

525 TOTAL GAL PURGED

GROUNDWATER
ELEVATION 742.84

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR CO PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER 2 INCH
4 INCH
1 INCH

PURGE DATA

PURGE VOLUME

9:25 9:56 10:24 10:52 11:20
@ 105 GAL @ 210 GAL @ 315 GAL @ 420 GAL @ 525 GAL

TEMP, DEG C

11.0 11.2 11.7 11.8 11.6

PH, UNITS PH PAPER

7.84 7.96 7.90 7.96 7.88

SPECIFIC CONDUCTIVITY UMMS/CM

467 472 467 477 477

PUMP RATE, GPM

4 4 4 4 4

SAMPLE OBSERVATIONS

CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

EQUIPMENT ID

DECON FLUIDS USED

WATER LEVEL EQUIP. USED

GROUND ELEVATION

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

ISCO #
GRUNDFOS# ABB-2
2" 4" #

POTABLE WATER
LIQUINOX
STEAM CLEANING

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
AG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PBN 910104D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID PBN-910-04D

JOB NUMBER

6853-G-

SAMPLING DATE

4/24/92

LOCATION

PROGRAM

C

ACTIVITY

START 0800

END 1100

FILE NAME

CGW

WEATHER

OVERCAST

40%

WATER LEVEL / WELL DATA

☒ TOP OF WELL

☒ TOP OF CASING

PROTECTIVE

CASING STICK-UP

18

FT

PROTECTIVE

CASING/WELL DIFF.

+ .21

FT

WELL DEPTH

221

FT

☒ MEASURED

☒ HISTORICAL

WATER DEPTH

90.12

FT

100

GAL/VOL

100

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

829.95

HEIGHT OF

WATER COLUMN

130.9

FT

498

TOTAL GAL PURGED

100

GROUNDWATER

ELEVATION

737.83

PURGE H₂O CONTAINED?

☒ VOC

☒ DNT

☒ NO

WELL MATERIAL

☒ PVC

☒ SS

AMBIENT AIR

0.0

PPM

WELL MOUTH

0.0

PPM

WELL

DIAMETER

☒ 2 INCH

☒ 4 INCH

☒ 6 INCH

PURGE DATA

PURGE VOLUME

9:00 @ 100 GAL

9:30 @ 200 GAL

10:00 @ 300 GAL

10:30 @ 400 GAL

11:00 @ 498 GAL

TEMP, DEG C

10.5

10.1

10.4

10.2

10.4

PH, UNITS

☒ PH PAPER

7.58

7.92

7.97

7.92

8.20

SPECIFIC CONDUCTIVITY umhos/cm

451

448

454

451

446

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR

☒ CLOUDY

☒ COLORED

☒ TURBID

☒ ODOR

☒ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

☒

SAMPLING

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS # A38 2

2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER

☒ LIQUINOX

☒ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE

☒ FLOAT ACTIVATED

☒ PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO ₃ TO pH<2			1921	032600C
<input checked="" type="checkbox"/> CR	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO ₃ TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO ₃ TO pH<2			1921	032600C
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY		1922	032510C
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY		1923	
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY		1924	
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1925	032600C
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG		1926	032600C
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

James E. Carter / 6P

RECEIVED BY:

Ed E. Carter

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9101B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-01B

JOB NUMBER

6853-04

SAMPLING DATE 4-25-92

LOCATION ACTIVITY START 1200 1500 END 1400 1700

PROGRAM

C

FILE NAME CGW

WEATHER CLOUDY 4:3

WATER LEVEL / WELL DATA

WELL DEPTH 115 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.3 FT

PROTECTIVE CASING/WELL DIFF.

.22 FT

WATER DEPTH 78.30 FT

44 GAL/VOL 44

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 833.25

HEIGHT OF WATER COLUMN 36.7 FT

219 TOTAL GAL PURGED

GROUNDWATER ELEVATION 754.95

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

2 44 GAL 2 1.8 GAL 2 132 GAL 2 176 GAL 2 219 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.2	10.3	10.2	10.3	10.3
7.2	7.5	7.6	7.6	7.7
607	1011	611	611	611

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

830.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/T/H

RECEIVED BY: K. P. V. V.

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9101C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-01C

JOB NUMBER

6853-04

SAMPLING DATE

4/25/92

LOCATION

ACTIVITY START 1200 END 1430

PROGRAM

C

FILE NAME

CGW

WEATHER

Cloudy 40s

WATER LEVEL / WELL DATA

☒

TOP OF WELL

PROTECTIVE

PROTECTIVE

WELL DEPTH 160 FT

☐ MEASURED

☐ TOP OF CASING

CASING STICK-UP

18 ± FT

CASING/WELL DIFF.

WATER DEPTH 9.08 FT

☒ HISTORICAL

53 GAL/VOL

WELL INTEGRITY:

YES

NO

N/A

RISER

HEIGHT OF WATER COLUMN 80.92 FT

263

TOTAL GAL PURGED

PROT. CASING SECURE

☒

☐

☐

ELEVATION

834.03

WELL MATERIAL

SS

CONCRETE COLLAR INTACT

WELL LOCKED

☒

☐

☐

GROUNDWATER

ELEVATION

754.95

PURGE H2O CONTAINED?

☐ VCC

☐ DNT

☒ NO

WELL MATERIAL

☒ PVC

☐ SS

AMBIENT AIR

0 PPM

WELL MOUTH

0 PPM

WELL

2 INCH

4 INCH

INCH

PURGE DATA

PURGE VOLUME

53 GAL

106 GAL

159 GAL

212 GAL

263 GAL

TEMP, DEG C

10.7

10.4

10.4

10.4

10.4

pH, UNITS ☐ pH PAPER

7.3

7.6

7.7

7.7

7.7

SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$

571

565

562

564

564

PUMP RATE, GPM

SAMPLE OBSERVATIONS

☒ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

EQUIPMENT ID

ISCO #

DISCON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

831.0

SUBMERSIBLE PUMP

GRUNDFOS #

BAILER

2" 4" #

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VCC	Um.33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UW26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 419.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER SWN9101D

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/25/92

SITE ID SWN-91-01D

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION 1500
ACTIVITY START 11:00 END 1:00

PROGRAM C

WEATHER Cloudy

WATER LEVEL / WELL DATA

WELL DEPTH <u>200</u> FT	<input type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input type="checkbox"/> TOP OF WELL <input type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND) <u>1.2 ±</u> FT	PROTECTIVE CASING/WELL DIFF. <u>0.2</u> FT
WATER DEPTH <u>78.66</u> FT	<u>102</u> GAL/VOL	WELL INTEGRITY: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/>	RISER ELEVATION <u>833.57</u>	
HEIGHT OF WATER COLUMN <u>121.34</u> FT	<u>507</u> TOTAL GAL PURGED	PROT. CASING SECURE <input checked="" type="checkbox"/> CONCRETE COLLAR INTACT <input checked="" type="checkbox"/> WELL LOCKED <input checked="" type="checkbox"/> PVC WELL CAP <input checked="" type="checkbox"/>	GROUNDWATER ELEVATION <u>754.91</u>	
PURGE H ₂ O CONTAINED? <input type="checkbox"/> VOC <input type="checkbox"/> DNT <input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS <input type="checkbox"/>	WELL MATERIAL <input type="checkbox"/> AMBIENT AIR PPM	WELL MOUTH PPM	WELL DIAMETER <input type="checkbox"/> 2 INCH <input checked="" type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH	

PURGE DATA

PURGE VOLUME	<u>210.2</u> GAL	<u>220.7</u> GAL	<u>230.6</u> GAL	<u>240.7</u> GAL	<u>250.7</u> GAL	SAMPLE OBSERVATIONS <input type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> ODOR <input type="checkbox"/> OTHER (SEE NOTES)
TEMP, DEG C	<u>10.4</u>	<u>10.3</u>	<u>10.3</u>	<u>10.3</u>	<u>10.3</u>	
PH, UNITS <input type="checkbox"/> PH PAPER	<u>7.2</u>	<u>7.6</u>	<u>7.4</u>	<u>7.7</u>	<u>7.7</u>	
SPECIFIC CONDUCTIVITY umhos/cm	<u>569</u>	<u>566</u>	<u>569</u>	<u>568</u>	<u>568</u>	
PUMP RATE, GPM						

EQUIPMENT DOCUMENTATION

PURGING <input type="checkbox"/> SAMPLING <input checked="" type="checkbox"/>	PERISTALTIC PUMP <input type="checkbox"/> SUBMERSIBLE PUMP <input type="checkbox"/> BAILER <input type="checkbox"/> PVC/SILICON TUBING <input type="checkbox"/> IN-LINE/DISPOSABLE FILTER <input type="checkbox"/> OTHER <input type="checkbox"/>	EQUIPMENT ID ISCO # <input type="checkbox"/> GRUNDFOS# <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/>	DECON FLUIDS USED <input type="checkbox"/> POTABLE WATER <input type="checkbox"/> LIQUINOX <input type="checkbox"/> STEAM CLEANING	WATER LEVEL EQUIP. USED <input type="checkbox"/> ELECTRIC COND. PROBE <input type="checkbox"/> FLOAT ACTIVATED <input type="checkbox"/> PRESSURE TRANSDUCER	GROUND ELEVATION <u>831.5</u>
NUMBER OF FILTERS USED <u>1</u>					

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC um33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM NO	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK TH
RECEIVED BY: Paul R. Smith

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9102C

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/26/92

SITE ID SWN-191-02C

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 0930 END 1130

PROGRAM C

WEATHER OVERCAST
+10%

WATER LEVEL / WELL DATA

WELL DEPTH 154.5 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM MOUTH) 2.88 FT

PROTECTIVE CASING/WELL DIFF. -0.22 FT

WATER DEPTH 82.37 FT

67 GAL/VOL 6.5

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION 836.39

HEIGHT OF WATER COLUMN 72.1 FT

332 TOTAL GAL PURGED

GROUNDWATER ELEVATION 754.02

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR PPM

WELL MOUTH PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

10:20 @ 66.5 GAL 10:39 @ GAL 10:58 @ GAL 11:17 @ GAL 11:56 @ 332 GA'

TEMP, DEG C

☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm
PUMP RATE, GPM

10.1	10.2	10.0	10.3	10.2
7.07	7.52	7.63	7.46	7.57
166.3	667	662	668	673
2.5				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

834.4

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO PH<2				
CA SS16	YES	HNO3 TO PH<2				
NA SS16	YES	HNO3 TO PH<2				
CO SS16	YES	HNO3 TO PH<2				
CR SS16	YES	HNO3 TO PH<2				
HG SB03	YES	HNO3 TO PH<2				
PB SD24	YES	HNO3 TO PH<2				
NI SS16	YES	HNO3 TO PH<2				
BA SS16	YES	HNO3 TO PH<2				
HARD USEPA 130.2	YES	HNO3 TO PH<2				
NIT TF10	YES	H2SO4 TO PH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO PH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO PH<2	500 ML POLY			
VOC um93	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO PH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE *George E. [Signature]*

RECEIVED BY: *[Signature]*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN 91 02 D

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-02D

JOB NUMBER

6853-04

SAMPLING DATE

4/26/92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 0930

END 1200

WEATHER

OVERCAST

WATER LEVEL / WELL DATA

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.65 FT

PROTECTIVE CASING/WELL DIFF.

17 FT

WELL DEPTH 187 FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH 82.65 FT

94

GAL/VOL

93

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER ELEVATION

836.61

HEIGHT OF WATER COLUMN

104.4 FT

4.67

TOTAL GAL PURGED

107

GROUNDWATER ELEVATION

753.96

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER

2 INCH
4 INCH
6 INCH

PURGE DATA

PURGE VOLUME

10:37

11:07

11:41

12:13

12:45

2 GAL

2 GAL

2 GAL

2 GAL

2 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.1

10.5

10.4

10.3

10.5

7.48

7.13

7.72

7.92

7.94

5.13

5.17

5.15

5.06

5.19

3.0

SAMPLE OBSERVATIONS

☐ CLEAR

☐ CLOUDY

☐ COLORED

☐ TURBID

☐ ODOR

☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

URGING SAMPLING

☐ PERI-TALTIC PUMP

☐ SUBMERSIBLE PUMP

☐ BAILER

☐ PVC/SILICON TUBING

☐ IN-LINE/DISPOSABLE FILTER

☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

834.5

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC Um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *[Signature]* LIC
RECEIVED BY: *[Signature]*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN 91103B

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-191-03B

JOB NUMBER

6853-04

SAMPLING DATE 4.28.92

LOCATION ACTIVITY START 1200 END 1400

PROGRAM

C

FILE NAME CGW

WEATHER Sunny 80-90 F, 70-80 F

WATER LEVEL / WELL DATA

WELL DEPTH 115 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.9 FT

PROTECTIVE
CASING/WELL DIFF.

0.08 FT

WATER DEPTH 83.98 FT

140 GAL/VOL 40

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER
ELEVATION

836.63

HEIGHT OF
WATER COLUMN 31 FT

200 TOTAL GAL PURGED

GROUNDWATER
ELEVATION

752.65

PURGE H2O CONTAINED?
[X] VOC [] DNT [] NO

WELL MATERIAL
[X] PVC [] SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 1.2 PPM

WELL DIAMETER
[X] 2 INCH
[] 4 INCH
[] INCH

PURGE DATA

PURGE VOLUME

1200 @ 40 GAL 1200 @ 80 GAL 1200 @ 120 GAL 1200 @ 160 GAL 1200 @ 200 GAL

TEMP, DEG C

11.0 10.8 10.7 10.9 10.9

pH, UNITS [] pH PAPER

7.9 7.6 7.5 7.4 7.5

SPECIFIC CONDUCTIVITY umhos/cm

587 574 574 572 572

PUMP RATE, GPM

4.0 4.0 4.0 4.0 4.0

SAMPLE OBSERVATIONS

[X] CLEAR
[] CLOUDY
[] COLORED
[] TURBID
[] COOR
[] OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

[X] PERISTALTIC PUMP
[X] SUBMERSIBLE PUMP
[X] BAILER
[X] PVC/SILICON TUBING
[X] IN-LINE/DISPOSABLE FILTER
[] OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
1/2" 4" #

DECON FLUIDS USED

[X] POTABLE WATER
[X] LIQUINOX
[X] STEAM CLEANING

WATER LEVEL EQUIP. USED

[X] ELECTRIC COND. PROBE
[X] FLOAT ACTIVATED
[X] PRESSURE TRANSDUCER

GROUND ELEVATION

834.7

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(XAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN 91103C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-911-03C

JOB NUMBER

6853-04

SAMPLING DATE 4/27/92

LOCATION

ACTIVITY START 12:00 END 14:30

PROGRAM

C

FILE NAME

CGW

WEATHER SUNNY!
40.5

WATER LEVEL / WELL DATA

WELL DEPTH 165 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.2 FT

PROTECTIVE CASING/WELL DIFF.

0.0 FT

WATER DEPTH 84.1 FT

72.5 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

836.73

HEIGHT OF WATER COLUMN 752.63 FT

36.3 TOTAL GAL PURGED

GROUNDWATER ELEVATION

752.63

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER
☒ 2 INCH
☐ 3 INCH
☐ 4 INCH

PURGE DATA

PURGE VOLUME

12:24	12:48	13:12	13:36	14:00
22.5 GAL	45 GAL	21.5 GAL	29.1 GAL	36.3 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.3	1.3	11.5	11.4	11.4
5.00	7.1	8.00	7.43	7.93
423	423	427	426	431
3				

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# HAZEL
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

836.6

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2			1984	032660C
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			1984	032660C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		1985	032660C
CL TT08	YES	4 DEG C	500 ML POLY		1986	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1987	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		1988	032660C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1989	032660C
NG 99	NO	4 DEG C	1 L AG		1990	032660C
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Gregory R. [Signature]*

RECEIVED BY: *Paul R. [Signature]*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN91030

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-030

JOB NUMBER

6853-04

SAMPLING DATE 1/22/92

LOCATION

ACTIVITY START 9:00 END 15:30

PROGRAM

C

FILE NAME CGW

WEATHER Sunny 40s

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.12 FT

PROTECTIVE CASING/WELL DIFF.

0.05

WELL DEPTH 210 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH 84.5 FT

102 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER

ELEVATION

837.09

HEIGHT OF

WATER COLUMN 125.5 FT

570 TOTAL GAL PURGED

GROUNDWATER

ELEVATION

752.59

PURGE H2O CONTAINED?

☐ VOC ☐ DNT ☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER 2 INCH
1/4 INCH
1 INCH

PURGE DATA

PURGE VOLUME @ 102 GAL @ 204 GAL @ 306 GAL @ 408 GAL @ 510 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.2 10.5 11.0 10.9 11.2
7.58 7.74 7.78 7.88 7.88
507 515 515 515 523
3

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDEFS#
92" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

835.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC USEPA 33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CO,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CO,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER SWN 9103E

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4.27.92

SITE ID SWN-91-03E

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 5:40 END 1500

PROGRAM C

WEATHER SUNNY 103

WATER LEVEL / WELL DATA

WELL DEPTH <u>240</u> FT	<input checked="" type="checkbox"/> MEASURED <input type="checkbox"/> HISTORICAL	<input type="checkbox"/> TOP OF WELL <input checked="" type="checkbox"/> TOP OF CASING	PROTECTIVE CASING STICK-UP (FROM GROUND) <u>252</u> FT	PROTECTIVE CASING/WELL DIFF. <u>0.225</u> "
WATER DEPTH <u>84.8</u> FT			WELL INTEGRITY: YES NO N/A	RISER ELEVATION <u>837.38</u>
HEIGHT OF WATER COLUMN <u>155.2</u> FT	<u>132</u> GAL/VOL		PROT. CASING SECURE <input checked="" type="checkbox"/>	GROUNDWATER ELEVATION <u>752.58</u>
	<u>659</u> TOTAL GAL PURGED		CONCRETE COLLAR INTACT <input checked="" type="checkbox"/>	
			WELL LOCKED <input checked="" type="checkbox"/>	
			PVC WELL CAP <input checked="" type="checkbox"/>	
PURGE H2O CONTAINED? <input type="checkbox"/> VOC <input type="checkbox"/> DNT <input type="checkbox"/> NO	WELL MATERIAL <input checked="" type="checkbox"/> PVC <input type="checkbox"/> SS	AMBIENT AIR <u>0.0</u> PPM	WELL MOUTH <u>0.0</u> PPM	WELL DIAMETER <input type="checkbox"/> 2 INCH <input checked="" type="checkbox"/> 4 INCH <input type="checkbox"/> 6 INCH

PURGE DATA

	9:20	10:00	10:50	11:34	12:18	SAMPLE OBSERVATIONS <input type="checkbox"/> CLEAR <input type="checkbox"/> CLOUDY <input type="checkbox"/> COLORED <input type="checkbox"/> TURBID <input type="checkbox"/> OOR <input type="checkbox"/> OTHER (SEE NOTES)
PURGE VOLUME	<u>2132</u> GAL	<u>264</u> GAL	<u>396</u> GAL	<u>528</u> GAL	<u>659</u> GAL	
TEMP, DEG C	<u>10.5</u>	<u>10.5</u>	<u>11.2</u>	<u>11.7</u>	<u>11.4</u>	
PH, UNITS <input type="checkbox"/> PH PAPER	<u>7.16</u>	<u>7.10</u>	<u>7.53</u>	<u>7.83</u>	<u>7.75</u>	
SPECIFIC CONDUCTIVITY umhos/cm	<u>552</u>	<u>553</u>	<u>551</u>	<u>555</u>	<u>566</u>	
PUMP RATE, GPM	<u>4</u>					

EQUIPMENT DOCUMENTATION

PURGING <input checked="" type="checkbox"/>	SAMPLING <input checked="" type="checkbox"/>	EQUIPMENT ID	RECON FLUIDS USED	WATER LEVEL EQUIP. USED	GROUND ELEVATION
<input type="checkbox"/>	<input type="checkbox"/>	PERISTALTIC PUMP	<input type="checkbox"/> POTABLE WATER	<input checked="" type="checkbox"/> ELECTRIC COND. PROBE	<u>835.0</u>
<input type="checkbox"/>	<input type="checkbox"/>	SUBMERSIBLE PUMP	<input type="checkbox"/> LIQUINOX	<input type="checkbox"/> FLOAT ACTIVATED	
<input type="checkbox"/>	<input type="checkbox"/>	BAILER	<input type="checkbox"/> STEAM CLEANING	<input type="checkbox"/> PRESSURE TRANSDUCER	
<input type="checkbox"/>	<input type="checkbox"/>	PVC/SILICON TUBING			
<input type="checkbox"/>	<input type="checkbox"/>	IN-LINE/DISPOSABLE FILTER			
<input type="checkbox"/>	<input type="checkbox"/>	OTHER	NUMBER OF FILTERS USED <u>1</u>		

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			2002	C3240-01C
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			2002	C3240-01C
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2003	C3240-01C
CL TT08	YES	4 DEG C	500 ML POLY		2004	
SO4 TT08	YES	4 DEG C	500 ML POLY		2005	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM23	NO	HCL, 4 DEG C	(3)40 ML VIAL		2006	C3240-01C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		2007	C3240-01C
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,NG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE [Signature]
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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9104C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-04C

JOB NUMBER

6853-04

SAMPLING DATE

4-25-92

LOCATION

ACTIVITY

START 0800

END 1100

PROGRAM

C

FILE NAME

CGW

WEATHER

partly cloudy

WATER LEVEL / WELL DATA

WELL DEPTH 165.5 FT

☐ MEASURED
☒ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.25 FT

PROTECTIVE CASING/WELL DIFF.

-1.21 FT

WATER DEPTH 83.74 FT

74 GAL/VOL 74

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

834.87

HEIGHT OF WATER COLUMN 81.76 FT

369 TOTAL GAL PURGED

GROUNDWATER ELEVATION

751.13

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☐ NO

WELL MATERIAL
☐ PVC ☐ SS

AMBIENT AIR

PPM

WELL MOUTH

PPM

WELL DIAMETER
☐ 2 INCH
☐ 4 INCH
☐ INCH

PURGE DATA

PURGE VOLUME

274 GAL

214 GAL

214 GAL

214 GAL

214 GAL

TEMP, DEG C

pH, UNITS

☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.4

11.7

11.5

11.5

11.5

5.5

5.7

5.5

5.4

5.5

5.5

5.7

5.5

5.4

5.5

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS #
9" 4" #

DECON FLUIDS USED

POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

832.8

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TFM USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER **SWN9105B**

PROJECT **USATHAMA-BAAP**

SITE TYPE **WELL**

SITE ID **SWN-91-05B**

JOB NUMBER **6853-04**

SAMPLING DATE **11/26/92**

LOCATION ACTIVITY **START 1600 END 1730**

PROGRAM **C**

FILE NAME **CGW**

WEATHER **OVERCAST +40°**

WATER LEVEL / WELL DATA

WELL DEPTH **115 FT** ☒ MEASURED ☐ HISTORICAL

WATER DEPTH **83.95 FT**

HEIGHT OF WATER COLUMN **31.1 FT**

TOP OF WELL ☒ TOP OF CASING ☐ PROTECTIVE CASING STICK-UP (FROM GROUND) **275 FT**

PROTECTIVE CASING/WELL DIFF. **1.14 FT**

WELL INTEGRITY: YES ☒ NO ☐ N/A ☐

PROT. CASING SECURE ☒

CONCRETE COLLAR INTACT ☒

WELL LOCKED ☒

PVC WELL CAP ☒

RISER ELEVATION **832.67**

GROUNDWATER ELEVATION **748.72**

PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO ☒ PVC ☐ SS

WELL MATERIAL **AMBIENT AIR 0.0 PPM**

WELL MOUTH **0.0 PPM**

WELL DIAMETER ☒ 2 INCH ☐ 4 INCH ☐ 6 INCH

PURGE DATA

PURGE VOLUME	7:56 @ 37 GAL	4:05 @ 74 GAL	11:20 @ 111 GAL	4:52 @ 147 GAL	4:40 @ 135 GAL
TEMP, DEG C	12.7	12.5	12.9	11.8	11.3
PH, UNITS <input type="checkbox"/> PH PAPER	7.55	7.45	7.42	7.62	7.67
SPECIFIC CONDUCTIVITY $\mu\text{mhos/cm}$	456	449	448	650	646
PUMP RATE, GPM	3.5				

SAMPLE OBSERVATIONS: ☒ CLEAR ☐ CLOUDY ☐ COLORED ☐ TURBID ☐ ODOUR ☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

EQUIPMENT ID **ISCO # 382**

DECON FLUIDS USED ☒ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING

WATER LEVEL EQUIP. USED ☒ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER

GROUND ELEVATION **830.5**

NUMBER OF FILTERS USED **1**

ANALYTICAL PARAMETERS

	METHOD	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO ₃ TO pH<2				
CA	SS16	YES	HNO ₃ TO pH<2				
NA	SS16	YES	HNO ₃ TO pH<2				
CO	SS16	YES	HNO ₃ TO pH<2				
CR	SS16	YES	HNO ₃ TO pH<2				
HG	SB03	YES	HNO ₃ TO pH<2				
PB	SD24	YES	HNO ₃ TO pH<2				
NI	SS16	YES	HNO ₃ TO pH<2				
BA	SS16	YES	HNO ₃ TO pH<2				
HARD	USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT	TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO ₄	TT08	YES	4 DEG C	500 ML POLY			
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TCC	USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3) 40 ML VIAL			
NH ₃ N	USEPA 350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY			
VOC	UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UM06	NO	4 DEG C	1 L AG			
DNT	UM26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *Gregory A. Smith*

RECEIVED BY: *Rob P. Smith*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

SWN9105C

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID SWN-91-05C

JOB NUMBER

6853-04

SAMPLING DATE

4/26/92

LOCATION
ACTIVITY

START 1300

END 1530

PROGRAM

C

FILE NAME

CGW

WEATHER

OVERCAST
40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.25 FT

PROTECTIVE
CASING/WELL DIFF.

-0.05 FT

WELL DEPTH 149 FT

☒ MEASURED
☒ HISTORICAL

WATER DEPTH 54.2 FT

61 GAL/VOL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒

RISER
ELEVATION

832.86

HEIGHT OF
WATER COLUMN

64.5 FT

305 TOTAL GAL PURGED

GROUNDWATER
ELEVATION

748.66

PURGE H2O CONTAINED?
☒ VOC ☒ DNT ☒ NO

WELL MATERIAL
☒ PVC ☒ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER ☒ 2 INCH
☒ 4 INCH
☒ 6 INCH

PURGE DATA

PURGE VOLUME

2.25 2.42 2.59 3.16 3.53
@ 61 GAL @ 122 GAL @ GAL @ GAL @ 305 GAL

TEMP, DEG C

PH, UNITS ☒ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.4	11.9	12.2	11.9	11.9
7.51	7.71	7.73	7.72	7.67
6.53	6.65	6.51	6.60	6.58
3.5				

SAMPLE OBSERVATIONS

☒ CLEAR
☒ CLOUDY
☒ COLORED
☒ TURBID
☒ ODOR
☒ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS# HAZO 1
2" 4" #

DECON FLUIDS USED
☒ POTABLE WATER
☒ LIQUINOX
☒ STEAM CLEANING

WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☒ FLOAT ACTIVATED
☒ PRESSURE TRANSDUCER

GROUND ELEVATION

830.8

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2			2038	012600
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			2038	032600
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		2039	052800
CL TT08	YES	4 DEG C	500 ML POLY		2040	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		2041	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL		2042	042500
BN/A UM16	NO	4 DEG C	(2) 1 L AG		2043	022800
NG 99	NO	4 DEG C	1 L AG		2044	
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 412.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *James E. Carter*
RECEIVED BY: *Paul R. [Signature]*

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER SWN 911 05 D

PROJECT: USATHAMA-BAAP

SITE TYPE: WELL

SAMPLING DATE: 1/26/92

SITE ID: SWN-91-05D

JOB NUMBER: 6553-04

FILE NAME: CGW

LOCATION

PROGRAM: C

WEATHER: OVERCAST 40%

ACTIVITY: START 1300 END 1600

WATER LEVEL / WELL DATA

WELL DEPTH: 203 FT

☒ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.28 FT

PROTECTIVE CASING/WELL DIFF.

17 FT

WATER DEPTH: 81.15 FT

97 GAL/VOL 97

WELL INTEGRITY:

YES NO N/A

RISE ELEVATION

833.31

HEIGHT OF WATER COLUMN: 118.3 FT

484 TOTAL GAL PURGED

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

GROUNDWATER ELEVATION

748.56

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0 () PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

2:30 @ 97 GAL 3:10 @ 114 GAL 3:30 @ 291 GAL 4:10 @ 389 GAL 4:30 @ 484 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.5 11.6 12.1 12.5 11.6
7.82 7.74 7.72 7.46 7.73
585 582 604 605 602
2.25

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS# HAZCO;
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUIDIX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

831.2

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input checked="" type="checkbox"/> PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
<input checked="" type="checkbox"/> TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CD	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> CR	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HG	SB03	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> PB	SD24	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NI	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> BA	SS16	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> HARD	USEPA 130.2	YES	HNO3 TO pH<2				
<input checked="" type="checkbox"/> NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> CL	TT08	YES	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> SO4	TT08	YES	4 DEG C				
<input checked="" type="checkbox"/> ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
<input checked="" type="checkbox"/> TDS	USEPA 160.1	NO	4 DEG C				
<input checked="" type="checkbox"/> TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
<input checked="" type="checkbox"/> NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
<input checked="" type="checkbox"/> VOC	USEPA 821.1	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
<input checked="" type="checkbox"/> BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
<input checked="" type="checkbox"/> NG	99	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> NAM	UN06	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> DNT	UN26	NO	4 DEG C	1 L AG			
<input checked="" type="checkbox"/> TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

RECEIVED BY:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SAMPLING DATE 4/25/92

SITE ID 15111111111111111111

JOB NUMBER 6853-04

FILE NAME CGW

LOCATION ACTIVITY START 4/23/92 END 4/25/92 1500

PROGRAM C

WEATHER OVERCAST 40%

WATER LEVEL / WELL DATA

WELL DEPTH 71 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.58 FT

PROTECTIVE CASING/WELL DIFF. 1.34 FT

WATER DEPTH 69.5 FT

GAL/VOL 6.5

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A

RISER ELEVATION

HEIGHT OF WATER COLUMN FT

TOTAL GAL PURGED 33

GROUNDWATER ELEVATION

PURGE H2O CONTAINED?
VOC DNT NO

WELL MATERIAL
PVC SS

AMBIENT AIR 1.0 PPM

WELL MOUTH 1.0 PPM

WELL DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

2	1	0.5	0.5	0.5	0.5
7.32	-	-	-	-	-
11.1	-	-	-	-	-
535	-	-	-	-	-

TEMP, DEG C
pH, UNITS pH PAPER
SPECIFIC CONDUCTIVITY umhos/cm
PUMP RATE, GPM

SAMPLE OBSERVATIONS
CLEAR
CLOUDY
COLORED
TURBID
ODOR
OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID
ISCO #
GRUNDFOS #
2" 4" #

DECON FLUIDS USED
POTABLE WATER
LIQUINOX
STEAM CLEANING

WATER LEVEL EQUIP. USED
ELECTRIC COND. PROBE
FLOAT ACTIVATED
PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
HG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,X,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

* ONLY ABLE TO COLLECT VOC'S
ON 4/25/92

SIGNATURE: LC/15P
RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID S11102

JOB NUMBER 6853-0

SAMPLING DATE 4/24/92

LOCATION ACTIVITY START 1200 END 1300

PROGRAM C

FILE NAME CGW

WEATHER Cloudy, 40s

WATER LEVEL / WELL DATA

WELL DEPTH 66 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.8± FT

PROTECTIVE CASING/WELL DIFF. -1.45 FT

WATER DEPTH 47.02 FT

32 GAL/VOL (31.5)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER ELEVATION 509.12

HEIGHT OF WATER COLUMN 18.78 FT

158 TOTAL GAL PURGED

GROUNDWATER ELEVATION 761.91

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0 PPM

WELL MOUTH 0 PPM

WELL DIAMETER 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

32 GAL 64 GAL 96 GAL 128 GAL 158 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.0	10.2	10.2	10.2	10.2
6.5	6.9	7.4	7.1	6.8
681	1240	845	694	696

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDECS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

507.0

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

	METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/>	PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	CA SS16	YES	HNO ₃ TO pH<2			524	
<input type="checkbox"/>	NA SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	CD SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	CR SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	HG SB03	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	PB SD24	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	NI SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	BA SS16	YES	HNO ₃ TO pH<2				
<input type="checkbox"/>	HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1524	
<input type="checkbox"/>	NI7 TF10	YES	H2SO4 TO pH<2	500 ML POLY		1525	
<input type="checkbox"/>	CL TT08	YES	4 DEG C	500 ML POLY		1526	
<input type="checkbox"/>	SC4 TT08	YES	4 DEG C			1527	
<input type="checkbox"/>	ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1528	
<input type="checkbox"/>	TDS USEPA 160.1	NO	4 DEG C			1529	
<input type="checkbox"/>	TCC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		1530	
<input type="checkbox"/>	NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		1531	
<input type="checkbox"/>	VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1532	
<input type="checkbox"/>	BN/A UM16	NO	4 DEG C	(2) 1 L AG		1533	
<input type="checkbox"/>	NG 99	NO	4 DEG C	1 L AG		1534	
<input type="checkbox"/>	NAM UN06	NO	4 DEG C	1 L AG		1535	
<input type="checkbox"/>	DNT UW26	NO	4 DEG C	1 L AG		1536	
<input type="checkbox"/>	TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/TH

RECEIVED BY: [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID 111051111
 LOCATION ACTIVITY START 1500 END 143/630

FIELD SAMPLING NUMBER
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 1/21/92
 FILE NAME CGW
 WEATHER 40s RAIN

WATER LEVEL / WELL DATA

WELL DEPTH 21 FT. MEASURED ☒ TOP OF WELL PROTECTIVE CASING STICK-UP (FROM GROUND) 1.60 FT. PROTECTIVE CASING/WELL DIFF. 1.08 FT.
 WATER DEPTH 46.96 FT. HISTORICAL ☐ TOP OF CASING
 HEIGHT OF WATER COLUMN 74.04 FT. 59 GAL/VOL (58.6) WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE ☒ RISER ELEVATION 809.15
 CONCRETE COLLAR INTACT ☒ GROUNDWATER ELEVATION 759.67
 WELL LOCKED ☒ PVC WELL CAP ☒
 PURGE H2O CONTAINED? ☒ VOC ☐ DNT ☐ NO ☒ PVC ☐ SS AMBIENT AIR 0.1 PPM WELL MOUTH 0.1 PPM
 WELL DIAMETER 2 INCH

PURGE DATA

PURGE VOLUME	29 GAL	118 GAL	177 GAL	236 GAL	295 GAL
TEMP, DEG C	9.9	9.7	9.8	10.0	10.1
pH, UNITS <input type="checkbox"/> pH PAPER	7.28	7.39	7.4	7.27	7.29
SPECIFIC CONDUCTIVITY umhos/cm	276	394	591	513	592
PUMP RATE, GPM	4.62				

SAMPLE OBSERVATIONS
☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒
 PERISTALTIC PUMP ISCO #
 SUBMERSIBLE PUMP GRUNDFOS #
 BAILER 2" 4" #
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 DECON FLUIDS USED
☒ POTABLE WATER
☐ LITQUINOX
☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED
☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER
 GROUND ELEVATION 807.6
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NI1 TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UNOC	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Paul C. Smith/L.T./AKA
 RECEIVED BY: Rod H. Smith

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 11014

JOB NUMBER 6853-04

SAMPLING DATE 4/23/92

LOCATION ACTIVITY START 8:00 END 1:00

PROGRAM C

FILE NAME CGW

WEATHER Rain 40%

WATER LEVEL / WELL DATA

WELL DEPTH 75 FT

MEASURED
HISTORICAL

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

1.67 FT

PROTECTIVE
CASING/WELL DIFF.

.57 FT

WATER DEPTH 77.2 FT

38

GAL/VOL

30

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐

RISER
ELEVATION

779.21

GROUNDWATER
ELEVATION

762.01

HEIGHT OF
WATER COLUMN 17.8 FT

190

TOTAL GAL PURGED

190

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 00 PPM

WELL MOUTH 00 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 38 GAL

@ 76 GAL

@ 154 GAL

@ GAL

@ GAL

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ COOR
☐ OTHER (SEE NOTES)

TEMP, DEG C

10.8

10.4

10.6

10.6

10.8

pH, UNITS ☐ pH PAPER

7.48

7.47

7.48

7.46

7.44

SPECIFIC CONDUCTIVITY umhos/cm

530

531

542

545

PUMP RATE, GPM

4

4

4

4

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

☒ PERISTALTIC PUMP
☒ SUBMERSIBLE PUMP
☒ BAILER
☒ PVC/SILICON TUBING
☒ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS# ABB #2
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

779.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TGC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VCC Um33	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C 1 L AG				
NAM UN06	NO	4 DEG C 1 L AG				
DNT UW26	NO	4 DEG C 1 L AG				
TPH USEPA 418.1	NO	H2SO4 T pH<2 1 L GWM				

NOTES

PP METALS (AG, AS, BE, CO, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CO, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: [Signature]

RECEIVED BY: [Signature]

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FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

FIELD SAMPLING NUMBER

71645

SITE ID

511015

SITE TYPE

WELL

JOB NUMBER

6853-04

SAMPLING DATE

4-23-92

LOCATION

ACTIVITY

START 1100 END 1300

PROGRAM

C

FILE NAME

CGW

WEATHER

RAIN 40's

WATER LEVEL / WELL DATA

WELL DEPTH

111 FT

MEASURED

TOP OF WELL
TOP OF CASING

PROTECTIVE
CASING STICK-UP
(FROM GROUND)

2.33 FT

PROTECTIVE
CASING/WELL DIFF.

1.33 FT

WATER DEPTH

77.84 FT

HISTORICAL

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
[X] [] []
[X] [] []
[X] [] []
[X] [] []

RISER
ELEVATION

837.5

HEIGHT OF

WATER COLUMN

33.2 FT

31.5 GAL/VOL

31.5

TOTAL GAL PURGED

157

GROUNDWATER
ELEVATION

761.24

PURGE H2O CONTAINED?
[] VOC [] DNT [X] NO

WELL MATERIAL
[X] PVC [] SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL
DIAMETER 2 INCH
4 INCH
INCH

PURGE DATA

PURGE VOLUME

@ 31.5 GAL

@ 63 GAL

@ 94.5 GAL

@ GAL

@ GAL

TEMP, DEG C

10.4

10.5

10.4

10.5

10.7

PH, UNITS [] PH PAPER

7.38

7.41

7.37

7.39

7.41

SPECIFIC CONDUCTIVITY umhos/cm

595

597

512

593

592

PUMP RATE, GPM

2

SAMPLE OBSERVATIONS

[X] CLEAR
[] CLOUDY
[] COLORED
[] TURBID
[] ODOR
[] OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

[X] PERISTALTIC PUMP
[X] SUBMERSIBLE PUMP
[X] BAILER
[X] PVC/SILICON TUBING
[] IN-LINE/DISPOSABLE FILTER
[] OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS#

2" 4" #14226

DECON FLUIDS USED

[X] POTABLE WATER
[] LIQUINOX
[] STEAM CLEANING

WATER LEVEL EQUIP. USED

[X] ELECTRIC COND. PROBE
[] FLOAT ACTIVATED
[] PRESSURE TRANSDUCER

GROUND ELEVATION

837.4

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	[X]		
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		[X]		
CA	SS16	HNO3 TO pH<2		[X]		10326001
NA	SS16	HNO3 TO pH<2		[X]		
CD	SS16	HNO3 TO pH<2		[X]		
CR	SS16	HNO3 TO pH<2		[X]		
HG	SB03	HNO3 TO pH<2		[X]		
PB	SD24	HNO3 TO pH<2		[X]		
NI	SS16	HNO3 TO pH<2		[X]		
BA	SS16	HNO3 TO pH<2		[X]		
HARD	USEPA 130.2	HNO3 TO pH<2		[X]		0326001
NIT	TF10	H2SO4 TO pH<2	500 ML POLY	[X]		10326001
CL	TT08	4 DEG C	500 ML POLY	[X]		
SO4	TT08	4 DEG C		[X]		
ALK	USEPA 310.1	4 DEG C	500 ML POLY	[X]		
TDS	USEPA 160.1	4 DEG C		[X]		
TOC	USEPA 415.1			[X]		
NH3N2	USEPA 350.2	H2SO4 TO pH<2	(3)40 ML VIAL	[X]		
VOC	um33	HCL, 4 DEG C	(3)40 ML VIAL	[X]		0426001
BN/A	UM16	4 DEG C	(2) 1 L AG	[X]		0226001
NG	99	4 DEG C	1 L AG	[X]		
NAM	UN06	4 DEG C	1 L AG	[X]		
DNT	UW26	4 DEG C	1 L AG	[X]		
TPH	USEPA 418.1	H2SO4 TO pH<2	1 L GWM	[X]		

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(Al,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,HG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: Sam E. Carter

RECEIVED BY: Rod K. Kuster

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

51106

JOB NUMBER

6853-0-

SAMPLING DATE

1/23/92

LOCATION

ACTIVITY

START

1330

END

1600

PROGRAM

C

FILE NAME

CGW

WEATHER

RAIN

40S

WATER LEVEL / WELL DATA

WELL DEPTH

138

FT

MEASURED

HISTORICAL

TOP OF WELL

TOP OF CASING

PROTECTIVE

CASING STICK-UP

(FROM GROUND)

16.7

FT

PROTECTIVE

CASING/WELL DIFF.

.15

WATER DEPTH

77.2

FT

51

GAL/VOL

(51)

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES

NO

N/A

RISER

ELEVATION

24.72

GROUNDWATER

ELEVATION

262.52

HEIGHT OF

WATER COLUMN

60.8

FT

255

TOTAL GAL PURGED

(255)

PURGE H₂O CONTAINED?

VOC

DNT

NO

WELL MATERIAL

PVC

SS

AMBIENT AIR

0.0

PPM

WELL MOUTH

0.0

PPM

WELL DIAMETER

2

INCH

2

INCH

2

INCH

PURGE DATA

PURGE VOLUME

@ 51 GAL

@ 102 GAL

@ 153 GAL

@ 204 GAL

@ 255 GAL

TEMP, DEG C

10.6

10.7

10.7

10.6

10.8

pH, UNITS

PH PAPER

7.75

7.74

7.77

7.80

7.81

SPECIFIC CONDUCTIVITY umhos/cm

511

511

500

507

507

PUMP RATE, GPM

4

4

4

4

4

SAMPLE OBSERVATIONS

CLEAR

CLOUDY

COLOR

TURBID

ODOR

OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING

SAMPLING

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS# 111111

2" 4" #

ABB# 111111

OTHER

DECON FLUIDS USED

POTABLE WATER

LIQUINX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

237.7

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD	NUMBER	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
			METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)		YES	HNO3 TO pH<2				
CA	SS16	YES	HNO3 TO pH<2				
NA	SS16	YES	HNO3 TO pH<2				
CD	SS16	YES	HNO3 TO pH<2				
CR	SS16	YES	HNO3 TO pH<2				
HG	SB03	YES	HNO3 TO pH<2				
PB	SD24	YES	HNO3 TO pH<2				
NI	SS16	YES	HNO3 TO pH<2				
BA	SS16	YES	HNO3 TO pH<2				
HARD	USEPA 130.2	YES	HNO3 TO pH<2				
NIT	TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL	TT08	YES	4 DEG C	500 ML POLY			
SO4	TT08	YES	4 DEG C				
ALK	USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS	USEPA 160.1	NO	4 DEG C				
TOC	USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL			
NH3N2	USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	USEPA 821.1	NO	HCL, 4 DEG C	(3) 40 ML VIAL			
BN/A	UM16	NO	4 DEG C	(2) 1 L AG			
NG	99	NO	4 DEG C	1 L AG			
NAM	UN06	NO	4 DEG C	1 L AG			
DNT	UN26	NO	4 DEG C	1 L AG			
TPH	USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, HG, MN, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: *James E. Cate* 1/19

RECEIVED BY: *Bob K. [Signature]*

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FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

511071

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

511071

JOB NUMBER

6853-04

SAMPLING DATE

4.25.92

LOCATION

ACTIVITY

START 0800

END 1000

PROGRAM

C

FILE NAME

CGW

WEATHER

CLOUDY 40%

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☒ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.70 FT

PROTECTIVE CASING/WELL DIFF.

- .01 FT

WELL DEPTH

76 FT

☐ MEASURED
☒ HISTORICAL

WATER DEPTH

49.14 FT

49.5 GAL/VOL

49.5

WELL INTEGRITY:

PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

812.05

HEIGHT OF

WATER COLUMN

26.9 FT

247

TOTAL GAL PURGED

247

GROUNDWATER ELEVATION

762.94

PURGE H₂O CONTAINED?

☐ VOC ☐ DNT ☒ NO

WELL MATERIAL

☒ PVC ☐ SS

AMBIENT AIR 0.0 PPM

WELL MOUTH 0.0 PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 49.5 GAL

@ 99 GAL

@ 148.5 GAL

@ 198 GAL

@ 247 GAL

TEMP, DEG C

10.4

10.4

10.7

10.5

10.4

PH, UNITS

☐ PH PAPER

6.51

7.40

7.30

7.33

7.54

SPECIFIC CONDUCTIVITY umhos/cm

580

579

579

584

581

PUMP RATE, GPM

4

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☐ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GRUNDFOS# A32 #2

2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

810.1

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY		1354	032600.C
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2			1354	032600.C
NIT TF10	YES	H2SO ₄ TO pH<2	500 ML POLY		1354	052810.C
CL TT08	YES	4 DEG C	500 ML POLY		1354	
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		1354	
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO ₄ TO pH<2	(3) 40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO ₄ TO pH<2	500 ML POLY			
VOC um33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		1354	040520.C
BN/A UM16	NO	4 DEG C	(2) 1 L AG		1354	040520.C
NG 99	NO	4 DEG C	1 L AG		1354	
NAM UN06	NO	4 DEG C	1 L AG		1354	
DNT UW26	NO	4 DEG C	1 L AG		1354	
TPH USEPA 418.1	NO	H2SO ₄ TO pH<2	1 L GWM		1354	

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE:

Laura E. Carter

RECEIVED BY:

Robert K. Koon

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4/23/92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY

START 1630 END 1500

WEATHER Rain, 40°

WATER LEVEL / WELL DATA

WELL DEPTH 41 FT

☐ MEASURED
☐ HISTORICAL

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 2.30 FT

PROTECTIVE CASING/WELL DIFF. 1.04 FT

WATER DEPTH 19.61 FT

42 GAL/VOL 42

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
LT

RISER ELEVATION 752.74

HEIGHT OF WATER COLUMN 21.33 FT

210 TOTAL GAL PURGED

GROUNDWATER ELEVATION 763.07

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 0.4 PPM

WELL MOUTH 0.2 PPM

WELL DIAMETER 2 INCH
4 INCH

PURGE DATA

PURGE VOLUME

@ 42 GAL

@ 84 GAL

@ 126 GAL

@ 168 GAL

@ 210 GAL

TEMP, DEG C

9.5

9.5

9.6

9.6

9.6

pH, UNITS ☐ pH PAPER

7.1

7.0

7.1

7.1

7.1

SPECIFIC CONDUCTIVITY umhos/cm

381

383

413

419

396

PUMP RATE, GPM

4.5

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDFOS#
2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

751.4

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2				
NA SS16	YES	HNO3 TO pH<2				
CD SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG SB03	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C				
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A UM16	NO	4 DEG C	(2) 1 L AG			
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

No concrete collar - stone

SIGNATURE:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4-22-92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 1530

END 1700

WEATHER

Cloudy 40's

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.75 FT

PROTECTIVE CASING/WELL DIFF.

-0.27 FT

WELL DEPTH

109 FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH

84.77 FT

31.5 GAL/VOL

WELL INTEGRITY:

PROT. CASING SECURE

CONCRETE COLLAR INTACT

WELL LOCKED

PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

84.5

HEIGHT OF

WATER COLUMN

19.23 FT

158 TOTAL GAL PURGED

GROUNDWATER ELEVATION

76.81

PURGE H₂O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR NR PPM

WELL MOUTH NE PPM

WELL DIAMETER
☒ 2 INCH
☐ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 31.5 GAL

@ 6.3 GAL

@ 94.5 GAL

@ 126 GAL

@ 158 GAL

TEMP, DEG C

PH, UNITS ☐ PH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

10.6

7.6

143

4.0

10.6

7.3

627

10.6

7.3

625

10.6

7.3

625

10.3

7.4

628

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

URGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

EQUIPMENT ID

ISCO #

GRUNDEOS#

2" 4" #

DECON FLUIDS USED

☐ POTABLE WATER

☐ LIQUINOX

☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE

☐ FLOAT ACTIVATED

☐ PRESSURE TRANSDUCER

GROUND ELEVATION

84.7

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY	<input checked="" type="checkbox"/>		
TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		0326601C
CA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CD SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
CR SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HG SB03	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
PB SD24	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
NI SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
BA SS16	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		
HARD USEPA 130.2	YES	HNO ₃ TO pH<2		<input checked="" type="checkbox"/>		0326601C
NIT TF10	YES	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		0528101C
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
SO ₄ TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>		
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>		
TOC USEPA 415.1	NO	H ₂ SO ₄ TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>		
NH ₃ N ₂ USEPA-350.2	NO	H ₂ SO ₄ TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>		
VOC UM33	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>		0428701C
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>		0228101C
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>		
TPH USEPA 418.1	NO	H ₂ SO ₄ TO pH<2	1 L GWM	<input checked="" type="checkbox"/>		

NOTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

NR = no reading - TE inoperable

SIGNATURE:

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID 11111111

JOB NUMBER 6853-04

SAMPLING DATE 4/22/92

LOCATION ACTIVITY START 1500 END 1630

PROGRAM C

FILE NAME CGW

WEATHER CLOUDY 42°

WATER LEVEL / WELL DATA

WELL DEPTH 64.5 FT

☐ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

2.1 ± FT

PROTECTIVE CASING/WELL DIFF. 0.05 ±

WATER DEPTH 26.92 FT

29 GAL/VOL (29)

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

286.20

HEIGHT OF WATER COLUMN 37.58 FT

1215 TOTAL GAL PURGED (45)

GROUNDWATER ELEVATION

286.20

PURGE H2O CONTAINED?
☐ VOC ☐ DNT ☒ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

@ 29 GAL

@ 58 GAL

@ 87 GAL

@ 126 GAL

@ 45 GAL

SAMPLE OBSERVATIONS

☒ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODCR
☐ OTHER (SEE NOTES)

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

13.4

10.5

10.8

10.6

10.7

7.5

7.7

7.7

7.7

7.2

576

511

509

512

510

EQUIPMENT DOCUMENTATION

PURGING ☒ SAMPLING ☒

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
2" 4" #

DECON FLUIDS USED

☒ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☒ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

810.5

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY	<input checked="" type="checkbox"/>	/	/
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
CA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
NA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
CD SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
CR SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
HG SB03	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
PB SD24	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
NI SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
BA SS16	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
HARD USEPA 130.2	YES	HNO3 TO pH<2		<input checked="" type="checkbox"/>	/	/
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	/	/
CL TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	/	/
SO4 TT08	YES	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	/	/
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY	<input checked="" type="checkbox"/>	/	/
TDS USEPA 160.1	NO	4 DEG C		<input checked="" type="checkbox"/>	/	/
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL	<input checked="" type="checkbox"/>	/	/
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY	<input checked="" type="checkbox"/>	/	/
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL	<input checked="" type="checkbox"/>	/	/
BN/A UM16	NO	4 DEG C	(2) 1 L AG	<input checked="" type="checkbox"/>	/	/
NG 99	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	/	/
NAM UN06	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	/	/
DNT UW26	NO	4 DEG C	1 L AG	<input checked="" type="checkbox"/>	/	/
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM	<input checked="" type="checkbox"/>	/	/

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)
TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK FH

RECEIVED BY: R. P. H. H.

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PAGE 1 of 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID 5111111111111111
 LOCATION ACTIVITY START 1630 END 1730

FIELD SAMPLING NUMBER

SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4/22/92
 FILE NAME CGW
 WEATHER cloudy 40's

WATER LEVEL / WELL DATA

WELL DEPTH 121 FT
 WATER DEPTH 30.25 FT
 HEIGHT OF WATER COLUMN 20.75 FT
 MEASURED HISTORICAL
 TOP OF WELL TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) 2.12 FT
 PROTECTIVE CASING/WELL DIFF. 20.12 FT
 RISER ELEVATION
 GROUNDWATER ELEVATION 768.57
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 PVC WELL CAP
 PURGE H2O CONTAINED? VOC DNT NO
 WELL MATERIAL PVC SS
 AMBIENT AIR PPM
 WELL MOUTH PPM
 WELL DIAMETER 2 INCH 4 INCH

PURGE DATA

PURGE VOLUME	2.5 GAL	2.5 GAL	1.05 GAL	1.40 GAL	1.25 GAL
TEMP, DEG C	13.4	10.8	12.8	10.7	12.7
pH, UNITS	7.7	7.7	7.6	7.6	7.7
SPECIFIC CONDUCTIVITY umhos/cm	554	514	519	513	514
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
 CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOUR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING
 EQUIPMENT ID
 DECON FLUIDS USED
 WATER LEVEL EQUIP. USED
 GROUND ELEVATION
 PERISTALTIC PUMP
 SUBMERSIBLE PUMP
 BAILER
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 ISCO #
 GRUNDFOS #
 2" 4" #
 POTABLE WATER
 LIQUINOX
 STEAM CLEANING
 ELECTRIC COND. PROBE
 FLOAT ACTIVATED
 PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD	FILTERED	PRESERVATION	VOLUME	SAMPLE	SAMPLE BOTTLE ID NUMBERS	BOTTLE
NUMBER		METHOD	REQUIRED	COLLECTED		LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA	YES	HNO3 TO pH<2				
NA	YES	HNO3 TO pH<2				
CD	YES	HNO3 TO pH<2				
CR	YES	HNO3 TO pH<2				
HG	YES	HNO3 TO pH<2				
PB	YES	HNO3 TO pH<2				
NI	YES	HNO3 TO pH<2				
BA	YES	HNO3 TO pH<2				
HARD	YES	HNO3 TO pH<2				
NIT	YES	H2SO4 TO pH<2	500 ML POLY			
CL	YES	4 DEG C	500 ML POLY			
SO4	YES	4 DEG C				
ALK	NO	4 DEG C	500 ML POLY			
TDS	NO	4 DEG C				
TOC	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC	NO	HCL, 4 DEG C	(3)40 ML VIAL			
BN/A	NO	4 DEG C	(2) 1 L AG			
NG	NO	4 DEG C	1 L AG			
NAM	NO	4 DEG C	1 L AG			
DNT	NO	4 DEG C	1 L AG			
TPH	NO	H2SO4 TO pH<2	1 L GWM			

OTES PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(CAL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

WELL WENT DRY AFTER 3 VOLUMES AT 5 GPM
 SKED DOWN TO 30GPM W/ BETTER RESULTS

SIGNATURE: CK/TN
 RECEIVED BY: Phil R. [Signature]

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT USATHAMA-BAAP

SITE TYPE WELL

SITE ID

JOB NUMBER 6853-04

SAMPLING DATE 4/22/92

LOCATION

PROGRAM C

FILE NAME CGW

ACTIVITY

START 1330 END 1500

WEATHER Cloudy 45°

WATER LEVEL / WELL DATA

WELL DEPTH 45.5 FT

☒ MEASURED
☐ HISTORICAL

☐ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND) 1 FT

PROTECTIVE CASING/WELL DIFF. 1 FT

WATER DEPTH 47 FT

47 GAL/VOL (46.5)

WELL INTEGRITY: YES NO N/A
PROT. CASING SECURE ☒ ☐ ☐
CONCRETE COLLAR INTACT ☒ ☐ ☐
WELL LOCKED ☒ ☐ ☐
PVC WELL CAP ☒ ☐ ☐

RISER ELEVATION 772.1

HEIGHT OF WATER COLUMN 27.31 FT

232 TOTAL GAL PURGED (232)

GROUNDWATER ELEVATION 772.1

PURGE H₂O CONTAINED? ☐ VOC ☐ DNT ☒ NO

WELL MATERIAL ☐ PVC ☐ SS

AMBIENT AIR — PPM

WELL MOUTH — PPM

WELL DIAMETER ☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

247 GAL

277 GAL

171 GAL

181 GAL

232 GAL

TEMP, DEG C

18.5

18.5

18.6

18.5

18.6

pH, UNITS ☐ pH PAPER

7.4

7.4

7.4

7.4

7.4

SPECIFIC CONDUCTIVITY umhos/cm

577

577

577

577

577

PUMP RATE, GPM

5.7

5.7

5.7

5.7

5.7

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒ PERISTALTIC PUMP
☐ SUBMERSIBLE PUMP
☐ BAILER
☐ PVC/SILICON TUBING
☐ IN-LINE/DISPOSABLE FILTER
☐ OTHER

PERISTALTIC PUMP
SUBMERSIBLE PUMP
BAILER
PVC/SILICON TUBING
IN-LINE/DISPOSABLE FILTER
OTHER

EQUIPMENT ID

ISCO #
GRUNDEOS#
☒ 2" ☐ 4" #

DECON FLUIDS USED

☐ POTABLE WATER
☐ LIQUINOX
☐ STEAM CLEANING

WATER LEVEL EQUIP. USED

☐ ELECTRIC COND. PROBE
☐ FLOAT ACTIVATED
☐ PRESSURE TRANSDUCER

GROUND ELEVATION

772.1

NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
<input type="checkbox"/> PP METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2	1 L POLY			
<input type="checkbox"/> TAL METALS (SPECIFIED BELOW)	YES	HNO ₃ TO pH<2				
CA SS16	YES	HNO ₃ TO pH<2				
NA SS16	YES	HNO ₃ TO pH<2				
CD SS16	YES	HNO ₃ TO pH<2				
CR SS16	YES	HNO ₃ TO pH<2				
HG SB03	YES	HNO ₃ TO pH<2				
PB SD24	YES	HNO ₃ TO pH<2				
NI SS16	YES	HNO ₃ TO pH<2				
BA SS16	YES	HNO ₃ TO pH<2				
HARD USEPA 130.2	YES	HNO ₃ TO pH<2				
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY			
CL TT08	YES	4 DEG C	500 ML POLY			
SO4 TT08	YES	4 DEG C	500 ML POLY			
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2 (3)40 ML VIAL				
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2 500 ML POLY				
VOC UM17	NO	HCL, 4 DEG C (3)40 ML VIAL				
BN/A UM16	NO	4 DEG C (2) 1 L AG				
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UW26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GWM			

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: TH/CK

RECEIVED BY: Rob R. Mante

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PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

FIELD SAMPLING NUMBER

PROJECT: USATHAMA-BAAP

SITE TYPE

WELL

SITE ID

JOB NUMBER

6853-04

SAMPLING DATE

4.15.92

LOCATION

PROGRAM

C

FILE NAME

CGW

ACTIVITY

START 0800

END 0930

WEATHER

rain, wet, 40°

WATER LEVEL / WELL DATA

☒ TOP OF WELL
☐ TOP OF CASING

PROTECTIVE CASING STICK-UP (FROM GROUND)

1.91 FT

PROTECTIVE CASING/WELL DIFF.

-1.51 FT

WELL DEPTH

68 FT

☐ MEASURED
☐ HISTORICAL

WATER DEPTH

47.62 FT

35 GAL/VOL

35

WELL INTEGRITY:
PROT. CASING SECURE
CONCRETE COLLAR INTACT
WELL LOCKED
PVC WELL CAP

YES NO N/A
☒ ☐ ☐
☒ ☐ ☐
☒ ☐ ☐

RISER ELEVATION

551.10

HEIGHT OF WATER COLUMN

20.38 FT

175 TOTAL GAL PURGED

GROUNDWATER ELEVATION

773.94

PURGE H₂O CONTAINED?
☒ VOC ☐ DNT ☐ NO

WELL MATERIAL
☒ PVC ☐ SS

AMBIENT AIR 00 PPM

WELL MOUTH 00 PPM

WELL DIAMETER
☐ 2 INCH
☒ 4 INCH
☐ 6 INCH

PURGE DATA

PURGE VOLUME

2 35 GAL

2 70 GAL

2 105 GAL

2 140 GAL

2 175 GAL

TEMP, DEG C

pH, UNITS ☐ pH PAPER

SPECIFIC CONDUCTIVITY umhos/cm

PUMP RATE, GPM

11.0

7.15

1212

4.5

10.7

7.5

1160

10.7

7.43

1219

10.4

7.5

1221

10.4

7.5

1224

SAMPLE OBSERVATIONS

☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ ODOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING

☒

☒

PERISTALTIC PUMP

SUBMERSIBLE PUMP

BAILER

PVC/SILICON TUBING

IN-LINE/DISPOSABLE FILTER

OTHER

EQUIPMENT ID

ISCO #

GROUNDFOSS#

2" 4" #

DECON FLUIDS USED

POTABLE WATER

LIQUINOX

STEAM CLEANING

WATER LEVEL EQUIP. USED

ELECTRIC COND. PROBE

FLOAT ACTIVATED

PRESSURE TRANSDUCER

GROUND ELEVATION

NUMBER OF FILTERS USED

1

ANALYTICAL PARAMETERS

PP METALS (SPECIFIED BELOW)

TAL METALS (SPECIFIED BELOW)

CA SS16

NA SS16

CD SS16

CR SS16

HG SB03

PB SD24

NI SS16

BA SS16

HARD USEPA 130.2

NIT TF10

CL TT08

SO4 TT08

ALK USEPA 310.1

TDS USEPA 160.1

TOC USEPA 415.1

NH3N2 USEPA 350.2

VOC um33

BN/A UM16

NG 99

NAM UN06

DNT UW26

TPH USEPA 418.1

FILTERED

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

YES

PRESERVATION METHOD

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

HNO3 TO pH<2

H2SO4 TO pH<2

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2

H2SO4 TO pH<2

HCL, 4 DEG C

4 DEG C

4 DEG C

4 DEG C

4 DEG C

H2SO4 TO pH<2

VOLUME REQUIRED

1 L POLY

500 ML POLY

500 ML POLY

500 ML POLY

(3) 40 ML VIAL

500 ML POLY

(2) 1 L AG

1 L AG

1 L AG

1 L AG

1 L GWM

SAMPLE COLLECTED

SAMPLE BOTTLE ID NUMBERS

BOTTLE LOT #

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, SB03, 99 (TL:GFAA, K/NA:ICP)

SIGNATURE: RICKS, ALI, L.T.

RECEIVED BY: Wmancy E. Rofra

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID 51114
 LOCATION ACTIVITY START 1230 END 1330

FIELD SAMPLING NUMBER 51114

SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 4-22-92
 FILE NAME CGW
 WEATHER cloudy 40's

WATER LEVEL / WELL DATA

WELL DEPTH 107 FT MEASURED TOP OF WELL TOP OF CASING PROTECTIVE CASING/WELL DIFF. 1.7 FT
 WATER DEPTH 47.54 FT HISTORICAL
 HEIGHT OF WATER COLUMN 59.46 FT 49 GAL/VOL 49 TOTAL GAL PURGED 246
 WELL INTEGRITY: YES NO N/A
 PROT. CASING SECURE
 CONCRETE COLLAR INTACT
 WELL LOCKED
 PVC WELL CAP
 PURGE H2O CONTAINED? VOC DNT NO WELL MATERIAL PVC SS AMBIENT AIR PPM WELL MOUTH PPM
 WELL DIAMETER 2 INCH 4 INCH

PURGE DATA

PURGE VOLUME	249 GAL	298 GAL	1157 GAL	196 GAL	446 GAL
TEMP, DEG C	12.2	10.2	10.7	10.2	10.2
pH, UNITS	7.9	7.9	7.8	7.9	7.9
SPECIFIC CONDUCTIVITY umhos/cm	263	460	457	453	454
PUMP RATE, GPM					

SAMPLE OBSERVATIONS
 CLEAR
 CLOUDY
 COLORED
 TURBID
 ODOR
 OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING SAMPLING EQUIPMENT ID DECON FLUIDS USED WATER LEVEL EQUIP. USED GROUND ELEVATION
 PERISTALTIC PUMP ISCO # POTABLE WATER ELECTRIC COND. PROBE 819.7
 SUBMERSIBLE PUMP GRUNDFOS # LIQUINOX
 BAILER 42" 4" # STEAM CLEANING
 PVC/SILICON TUBING
 IN-LINE/DISPOSABLE FILTER
 OTHER
 NUMBER OF FILTERS USED 1

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	BOTTLE LOT #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY		16-16	10226600
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2			16-16	10226600
CA SS16	YES	HNO3 TO pH<2			16-16	10226600
NA SS16	YES	HNO3 TO pH<2			16-16	10226600
CD SS16	YES	HNO3 TO pH<2			16-16	10226600
CR SS16	YES	HNO3 TO pH<2			16-16	10226600
HG SB03	YES	HNO3 TO pH<2			16-16	10226600
PB SD24	YES	HNO3 TO pH<2			16-16	10226600
NI SS16	YES	HNO3 TO pH<2			16-16	10226600
BA SS16	YES	HNO3 TO pH<2			16-16	10226600
HARD USEPA 130.2	YES	HNO3 TO pH<2			16-16	10226600
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		16-16	10226600
CL TT08	YES	4 DEG C	500 ML POLY		16-16	10226600
SO4 TT08	YES	4 DEG C	500 ML POLY		16-16	10226600
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY		16-16	10226600
TDS USEPA 160.1	NO	4 DEG C			16-16	10226600
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3) 40 ML VIAL		16-16	10226600
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY		16-16	10226600
VOC UM33	NO	HCL, 4 DEG C	(3) 40 ML VIAL		16-16	10226600
BN/A UM16	NO	4 DEG C	(2) 1 L AG		16-16	10226600
HG 99	NO	4 DEG C	1 L AG		16-16	10226600
NAM UN06	NO	4 DEG C	1 L AG		16-16	10226600
DNT UW26	NO	4 DEG C	1 L AG		16-16	10226600
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GMM		16-16	10226600

NOTES

PP METALS (AG,AS,BE,CD,CR,CU,PB,HG,NI,SB,SE,TL,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)
 TAL METALS(AL,SB,AS,BA,BE,CD,CA,CR,CO,CU,FE,PB,MG,MN,HG,NI,K,SE,AG,NA,TL,V,ZN): SS16,SD24,SB03,99 (TL:GFAA, K/NA:ICP)

SIGNATURE: CK/TH

RECEIVED BY: Paul R. Kunkel

Appendix G.5

Field Data Records - BAAP Production Well No. 2

ABB ENVIRONMENTAL SERVICES, INC.

PAGE 1 OF 1

FIELD DATA RECORD - GROUNDWATER

PROJECT USATHAMA-BAAP
 SITE ID B P W # 2
 LOCATION ACTIVITY START 1615 END 1630

FIELD SAMPLING NUMBER B P W # 2
 SITE TYPE WELL
 JOB NUMBER 6853-04
 PROGRAM C

SAMPLING DATE 12-3-91
 FILE NAME CGW
 WEATHER SLOW, 20° S

WATER LEVEL / WELL DATA

WELL DEPTH ☐ MEASURED ☐ HISTORICAL
 WATER DEPTH ☐ MEASURED ☐ HISTORICAL
 HEIGHT OF WATER COLUMN ☐ MEASURED ☐ HISTORICAL
 TOP OF WELL ☐ TOP OF CASING
 PROTECTIVE CASING STICK-UP (FROM GROUND) ☐ FT
 PROTECTIVE CASING/WELL DIES ☐ FT
 WELL DIAMETER ☐ 2 INCH ☐ 4 INCH ☐ 6 INCH
 GROUNDWATER ELEVATION ☐ FT
 .16 GAL/FT (2 IN)
 .65 GAL/FT (4 IN)
 1.5 GAL/FT (6 IN)
 GAL/FT (IN)
 TOTAL GAL PURGED
 PURGE H2O CONTAINED? ☐ YES ☐ NO
 WELL MATERIAL ☐ PVC ☐ SS
 AMBIENT AIR PPM
 WELL MOUTH PPM
 WELL INTEGRITY:
 PROT. CASING SECURE ☐ YES ☐ NO ☐ N/A
 CONCRETE COLLAR INTACT ☐ YES ☐ NO ☐ N/A
 WELL LOCKED ☐ YES ☐ NO ☐ N/A
 OTHER:

PURGE DATA

PURGE VOLUME ~ 15 gpm 125 GAL
 TEMP, DEG C 10.6
 PH, UNITS 4.09
 SPECIFIC CONDUCTIVITY umhos/cm 468
 Sample Observations:
☐ CLEAR
☐ CLOUDY
☐ COLORED
☐ TURBID
☐ OOR
☐ OTHER (SEE NOTES)

EQUIPMENT DOCUMENTATION

PURGING ☐ SAMPLING ☐
 PERISTALTIC PUMP ☐
 SUBMERSIBLE PUMP ☐
 BAILER ☐
 PVC/SILICONE TUBING ☐
 IN-LINE/DISPOSABLE FILTER ☐
 OTHER ☐
 EQUIPMENT ID ISCO # 11A
 DECON FLUIDS USED ☐ POTABLE WATER ☐ LIQUINOX ☐ STEAM CLEANING
 WATER LEVEL EQUIP. USED ☐ ELECTRIC COND. PROBE ☐ FLOAT ACTIVATED ☐ PRESSURE TRANSDUCER
 NUMBER OF FILTERS USED

ANALYTICAL PARAMETERS

METHOD NUMBER	FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE BOTTLE ID NUMBERS	ESS lot #
PP METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2	1 L POLY			
TAL METALS (SPECIFIED BELOW)	YES	HNO3 TO pH<2				
CA SS16	YES	HNO3 TO pH<2			3007	
NA SS16	YES	HNO3 TO pH<2				
CO SS16	YES	HNO3 TO pH<2				
CR SS16	YES	HNO3 TO pH<2				
HG S803	YES	HNO3 TO pH<2				
PB SD24	YES	HNO3 TO pH<2				
NI SS16	YES	HNO3 TO pH<2				
BA SS16	YES	HNO3 TO pH<2				
HARD USEPA 130.2	YES	HNO3 TO pH<2			3007	
NIT TF10	YES	H2SO4 TO pH<2	500 ML POLY		3008	
CL TT08	YES	4 DEG C	500 ML POLY		3009	
SO4 TT08	YES	4 DEG C			3010	
ALK USEPA 310.1	NO	4 DEG C	500 ML POLY			
TDS USEPA 160.1	NO	4 DEG C				
TOC USEPA 415.1	NO	H2SO4 TO pH<2	(3)40 ML VIAL			
NH3N2 USEPA 350.2	NO	H2SO4 TO pH<2	500 ML POLY			
VOC UM17	NO	HCL, 4 DEG C	(3)40 ML VIAL		3011	3012
BN/A UM16	NO	4 DEG C	(2) 1 L AG		3014	3015
NG 99	NO	4 DEG C	1 L AG			
NAM UN06	NO	4 DEG C	1 L AG			
DNT UN26	NO	4 DEG C	1 L AG			
TPH USEPA 418.1	NO	H2SO4 TO pH<2	1 L GLM			

NOTES

PP METALS (AG, AS, BE, CD, CR, CU, PB, HG, NI, SB, SE, TL, ZN): SS16, SD24, S803, 99 (TL:GFAA, K/NA:ICP)
 TAL METALS (AL, SB, AS, BA, BE, CD, CA, CR, CO, CU, FE, PB, MG, MN, HG, NI, K, SE, AG, NA, TL, V, ZN): SS16, SD24, S803, 99 (TL:GFAA, K/NA:ICP)
 - let H2O purge for 15 minutes and sample
 - No samples were filtered
 SIGNATURE: Trace Vaur
 RECEIVED BY: Nancy E O Rota

APPENDIX H
HYDROGEOLOGIC DATA

- H.1 Recharge Estimates**
- H.2 Gradient Calculations**
- H.3 Velocity Calculations**
- H.4 Preliminary Aquifer Test Results IRM**
- H.5 High Capacity Well Survey**
- H.6 Production Well No. 4
Zone-of-Influence**

Appendix H.1

Recharge Estimates

Determine potential recharge rates from low-flow stream gauging records.

Hindall and Borman, 1974, indicate low flow (Q) is equal to 0.2 and 0.8 cubic feet per second (cfs) per square mile of watershed.

Therefore,

$$0.2 \text{ cfs/mi}^2 = 0.23 \text{ ft/yr} = 3 \text{ in/yr}$$

$$0.8 \text{ cfs/mi}^2 = 0.9 \text{ ft/yr} = 11 \text{ in/yr}$$

RECEIVED - JUNE 19 1964

[illegible]

TABLE 1: THE FOLLOWING CONDITIONS WERE USED IN COMPUTING THE WATER POTENTIAL & THEREFORE THE WATER RETENTION.

1. THE PROPOSED SITE HAS BEEN ESTIMATED TO BE AT 47.4 DEGREES NORTH LATITUDE.
2. THE ESTIMATED STRAIGHT LINE DISTANCE BETWEEN THE PROPOSED SITE AND THE PROPOSED LOCATION WAS ESTIMATED TO BE APPROXIMATELY 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
3. THE PROPOSED LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
4. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
5. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
6. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
7. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
8. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
9. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.
10. THE PROPOSED SITE LOCATION AND APPROXIMATE COORDINATES (NAD83) DATA FOR THE PROPOSED SITE AND THE PROPOSED LOCATION ARE AS FOLLOWS: PROPOSED SITE: 47.4 DEGREES NORTH LATITUDE, 100 KILOMETERS (62 MILES) NORTH OF THE SITE LOCATION.

WATER BALANCE PROGRAM

FIG. 1: LONG WATER BALANCE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TEMPERATURE (F)	15.2	20.2	20.7	46.0	57.9	67.2	71.7	69.6	61.1	50.2	35.4	22.2	
MONTHLY VALUES													
UNADJUSTED POT. EVAPOTRANSF.	0.00	0.00	0.00	1.93	4.95	7.92	9.42	8.68	5.88	2.91	0.22	0.00	41.91
LONGITUDE CORRECTION (F)	24.3	24.4	20.6	33.6	37.9	38.5	38.4	36.0	31.2	28.5	24.1	22.9	
POTENTIAL EVAPOTRANSPIRATION	0.00	0.00	0.00	1.34	3.03	4.52	5.27	4.67	3.12	1.42	0.00	0.00	
PRECIPITATION	1.01	1.01	1.57	3.05	3.25	3.59	3.82	3.71	3.38	2.14	1.85	1.39	30.18
CUMULATIVE SNOW FAL (IN)	2.40	3.41	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	
CORRECTED EVAP. PRECIP. (IN)	0.00	0.00	4.31	4.12	3.25	3.59	3.82	3.71	3.38	2.14	1.85	0.00	
PRECIP. COEFFICIENT	0.15	0.15	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.15	
MONTHLY RUNOFF (IN)	0.00	0.00	0.43	0.41	0.27	0.36	0.57	0.77	0.74	0.21	0.14	0.00	
INFILTRATION (IN)	0.00	0.00	3.88	3.77	3.00	2.72	2.12	1.33	0.68	0.51	1.67	0.00	
INFILTRATION MINUS FEET (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ACCUMULATED WATER LOSS (IN)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SOIL MOISTURE STORAGE (IN)	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	
MOISTURE STORAGE (IN)	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
WATER STORAGE (IN)	0.00	0.00	0.00	1.34	3.03	4.52	5.27	4.67	3.12	1.42	0.00	0.00	
PRECIPITATION (IN)	0.00	0.00	3.30	3.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.37

NOTE: THE FOLLOWING CONDITIONS WERE USED IN COMPUTING THIS WATER BALANCE FOR THEORETICAL & MULTIPLE (EPA 1973) METHODS.

1. THE PROGRAMS HAVE BEEN ESTIMATED TO BE AT 47.42 DEGREES NORTH LATITUDE.
2. THE FOLLOWING LOCATION, AT THE ABOVE ELEVATION LOCATION WAS ESTIMATED FOR LONGITUDE 161.00.
3. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
4. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
5. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
6. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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38. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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40. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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43. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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61. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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63. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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91. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
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96. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
97. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
98. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
99. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.
100. THE LONGITUDE 161.00 IS 0.1 MILES FROM THE SITE LOCATION.

WATER BALANCE PROGRAM

FOR: EAAP WATER BALANCE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TEMPERATURE (F)	15.3	20.2	30.7	46.0	57.9	67.3	71.7	69.6	61.1	50.2	35.4	22.2	
MONTHLY 1 VALUES	0.00	0.00	0.00	1.93	4.95	7.92	9.42	8.68	5.88	2.91	0.22	0.00	41.91
UNADJUSTED POT. EVAFO-TRANSF.	0.00	0.00	0.00	0.04	0.08	0.12	0.14	0.13	0.10	0.05	0.00	0.00	
LATITUDE CORRECTION (r)	24.3	24.4	30.6	33.6	37.9	38.5	38.4	36.0	31.2	28.5	24.1	22.9	
POTENTIAL EVAFO-TRANSPIRATION	0.00	0.00	0.00	1.34	3.03	4.62	5.27	4.67	3.12	1.42	0.00	0.00	
PRECIPITATION	1.01	1.01	1.97	3.05	3.25	3.59	3.82	3.71	3.38	2.14	1.85	1.39	30.18
CUMULATIVE SNOW PACK (IN)	2.40	3.41	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	
CORRECTED EQUIV. PRECIP. (IN)	0.00	0.00	4.31	4.12	3.25	3.59	3.82	3.71	3.38	2.14	1.85	0.00	
RUNOFF COEFFICIENT	0.10	0.10	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.10	
MONTHLY RUNOFF (IN)	0.00	0.00	0.30	0.29	0.23	0.25	0.27	0.26	0.24	0.15	0.13	0.00	
INFILTRATION (IN)	0.00	0.00	4.01	3.83	3.03	3.24	3.55	3.45	3.15	1.99	1.72	0.00	
INFILTRATION MINUS FET (IN)	0.00	0.00	4.01	2.49	-0.00	-1.28	-1.82	-1.22	0.03	0.57	1.72	0.00	
ACCUMULATED WATER LOSS (IN)	0.00	0.00	0.00	0.00	-0.00	-1.30	-3.10	-4.32	0.00	0.00	0.00	0.00	
SOIL MOISTURE STORAGE (IN)	3.36	3.36	3.60	3.60	3.59	3.49	3.47	3.04	3.06	3.63	3.26	3.26	
MONTHLY MOISTURE CHANGE (IN)	0.00	0.00	0.24	0.00	-0.01	-1.11	-1.01	-0.44	0.03	0.57	1.72	0.00	
ACTUAL EVAFO-TRANSF. (IN)	0.00	0.00	0.00	1.34	3.03	4.45	4.57	3.89	3.12	1.42	0.00	0.00	
NET PERCOLATION (IN)	0.00	0.00	3.77	2.49	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	6.25

NOTE: THE FOLLOWING CONDITIONS WERE USED IN COMPUTING THIS WATER BALANCE PER THORNTONVILLE & MATHER / EPA 1975 METHODS.

- 1 THE PROPOSED SITE HAS BEEN ESTIMATED TO BE AT 43.42 DEGREES NORTH LATITUDE.
- 2 THE FOLLOWING STATION, AT THE NOTED RELATIVE LOCATION WAS REFERENCED FOR ATMOSPHERIC DATA
1 BARABOO WHICH IS 3.2 MILES NORTH THE SITE LOCATION
- 3 2 FEETIE DU SAC 2 N WHICH IS 8.1 MILES SSW THE SITE LOCATION
1951 THROUGH 1999 FOR THE STATION NOTED IN ITEM 2, HAS BEEN REFERRED IN THIS ANALYSIS.
- 4 UNADJUSTED POTENTIAL EVAFO-TRANSPIRATION VALUES HAVE BEEN CALCULATED USING THE FORMATION DEVELOPED BY THORNTONVILLE & MATHER AND NOT EPA/1975 TABLE 3 WHICH VARIES AS MUCH AS 0.01 FROM THE DEFINING EQUATION.
- 5 4 SNOW FACT (IN EQUIVALENT INCHES OF RAINFALL) IS ACCUMULATED FOR EACH SUB 30 DEGREE PARALLEL MONTH FROM OCTOBER THROUGH SEPTEMBER. THE TOTAL SNOW FACT IS THEN DISPERSED AS EQUIVALENT PERCENTAGE DURING A SETTING MELT EVENT, STARTING WHEN TEMPERATURES APPROACH 32 DEGREES.
- 6 THE CORRECTED EQUIVALENT PRECIPITATION IS THE SUM OF THE MONTHLY PRECIPITATION MINUS THE RUNOFF ADDED TO THE ACCUMULATED SNOW FACT PLUS THE ESTIMATED MONTHLY SNOW MELT.
- 7 RUNOFF COEFFICIENTS HAVE BEEN SELECTED PER CHURCH, FENN, ET AL. FOR THE TOP SOIL TYPE SPECIFIC TO THIS SITE FOR THE SURFALL SLOPE WHICH HAS BEEN ESTIMATED AS .07 FEET PER FOOT.
- 8 SELECTING AVAILABLE MOISTURE VALUES TO REFLECT THE GENERAL VALUES NOTED BY EPA/1975, THE FOLLOWING CORRECTION SYSTEM HAS BEEN APPLIED:
THE ROOT ZONE HAS BEEN ESTIMATED AS 24 INCHES
THE FINAL COVER HAS BEEN SET AT 1.4
THE VALUE OF THE SNOW FACT USED WITH 1.5 AVAILABLE MOISTURE

- 9 FOR MONTHS WHEN POTENTIAL EVAFO-TRANSPIRATION EXCEEDS THE PRECIPITATION, THE EXCESS POTENTIAL EVAPORATION IS CALCULATED BY THE EQUATION USED TO GENERATE EPA/1975 TABLE 11 THROUGH 22. THE VALUES DO NOT AFFECT THE FORMATION VALUES AT ALL POINTS. THESE CALCULATIONS DO NOT AFFECT THE MONTHLY MOISTURE CHANGE VALUES BY MORE THAN 0.001.
- 10 ALL COMPUTED TABLE VALUES HAVE BEEN ROUNDED TO THE NEAREST 0.01 FOR PRESENTING PURPOSES. COMPUTED STORAGE VALUES TO THE NEAREST 0.01.

WATER BALANCE PROGRAM

FIG. 1000: MONTHS WITHOUT LOSS

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TEMPERATURE (F)	15.1	20.0	30.6	45.8	57.7	67.1	71.4	69.3	60.6	50.0	35.2	22.1	
POTENTIAL EVAP-TRANSPIRATION	0.00	0.00	0.00	1.91	4.86	7.82	9.31	8.57	5.79	2.86	0.21	0.00	41.33
POTENTIAL CORRECTION (F)	24.3	24.4	30.6	33.6	37.9	38.5	38.5	36.0	31.2	28.5	24.1	22.9	
POTENTIAL EVAP-TRANSPIRATION	0.00	0.00	0.00	1.24	3.03	4.62	5.29	4.67	2.80	1.42	0.00	0.00	30.32
POTENTIAL EVAP-TRANSPIRATION	1.00	1.01	1.98	3.10	3.25	3.60	3.82	3.75	3.40	2.16	1.86	1.38	
CUMULATIVE SNOW FACI (IN)	2.28	2.40	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	
CORRECTED EQUIV. PRECIP. (IN)	0.00	0.00	4.85	3.63	3.25	3.60	3.82	3.75	3.40	2.16	1.86	0.00	
RUNOFF COEFFICIENT	0.10	0.10	0.10	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.10	
MONTHLY RUNOFF (IN)	0.00	0.00	0.49	0.15	0.12	0.14	0.15	0.15	0.14	0.09	0.07	0.00	
INFILTRATION (IN)	0.00	0.00	4.26	3.49	3.12	3.45	3.66	3.60	3.27	2.07	1.79	0.00	
INFILTRATION MINUS FET (IN)	0.00	0.00	4.26	3.15	0.09	-1.17	-1.73	-1.07	0.47	0.65	1.79	0.00	
ACCUMULATED WATER LOSS (IN)	0.00	0.00	0.00	0.00	0.00	-1.17	-2.89	-3.96	0.00	0.00	0.00	0.00	
SOIL MOISTURE STORAGE (IN)	1.80	1.80	1.80	1.80	1.80	0.88	0.30	0.16	0.62	1.28	1.80	1.80	
MONTHLY MOISTURE CHANGE (IN)	0.00	0.00	0.00	0.00	0.00	-0.92	-0.57	-0.15	0.47	0.65	0.52	0.00	
ACTUAL EVAP-TRANSPIRATION (IN)	0.00	0.00	0.00	1.24	3.03	4.28	4.24	3.74	2.80	1.42	0.00	0.00	
NET PERCOLATION (IN)	0.00	0.00	4.26	2.15	0.09	0.00	0.00	0.00	-0.00	0.00	1.26	0.00	7.87

NOTE: THE FOLLOWING CONDITIONS WERE USED IN COMPUTING THIS WATER BALANCE PER THORNTWHAITE & MATHER / EPA 1975 METHODS.

- 1 THE PROPOSED SITE HAS BEEN ESTIMATED TO BE AT 43.4 DEGREES NORTH LATITUDE.
- 2 THE FOLLOWING STATION, AT THE NOTED RELATIVE LOCATION WAS REFERENCED FOR ATMOSPHERIC DATA
1 BARABOO WHICH IS 4.7 MILES NORTH THE SITE LOCATION
- 3 THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) DATA FOR PRECIPITATION AND TEMPERATURE, FOR THE YEARS 1951 THROUGH 1980 FOR THE STATION NOTED IN ITEM 2. HAS BEEN REFERENCED IN THIS ANALYSIS.
- 4 UNADJUSTED POTENTIAL EVAP-TRANSPIRATION VALUES HAVE BEEN CALCULATED USING THE EQUATION DEVELOPED BY THORNTWHAITE & MATHER AND NOT EPA/1975 TABLE 2 WHICH VARIES AS MUCH AS 0.01 FROM THE DEFINING EQUATION.
- 5 A SNOW FACI (IN EQUIVALENT INCHES OF RAINFALL) IS ACCUMULATED FOR EACH SUB 32 DEGREE FAHRENHEIT MONTH FROM OCTOBER THROUGH SEPTEMBER. THE TOTAL SNOW FACI IS THEN DISPERSED AS EQUIVALENT PRECIPITATION DURING A SPRING MELT EVENT, STARTING WHEN TEMPERATURES APPROACH 32 DEGREES.
- 6 THE CORRECTED EQUIVALENT PRECIPITATION IS THE SUM OF THE MONTHLY PRECIPITATION MINUS THE AMOUNT ADDED TO THE ACCUMULATED SNOW FACI PLUS THE ESTIMATED MONTHLY SNOW MELT.
- 7 RUNOFF COEFFICIENTS HAVE BEEN SELECTED PER CHOW, FENN, ET AL. FOR THE TOPSOIL TYPE SPECIFIC TO THIS SITE FOR THE SURFACE SLOPE WHICH HAS BEEN ESTIMATED AS .04 FEET PER FOOT.
- 8 SELECTING AVAILABLE MOISTURE VALUES FROM THE RANGE OF VALUES RECORDED BY SCS. THE FOLLOWING FINAL COVER SYSTEM HAS BEEN ANALYZED:
THE FINAL COVER WAS SET AT: 24 INCHES OF SILTY SAND WITH 10 % AVAILABLE MOISTURE
THE ROOT ZONE HAS BEEN ESTIMATED AT: 18 INCHES
- 9 FOR MONTHS WHEN POTENTIAL EVAP-TRANSPIRATION EXCEEDS INFILTRATION, THE MOISTURE STORAGE VALUES ARE COMPUTED BY THE EQUATION USED TO GENERATE EPA/1975 TABLES 11 THROUGH 22. THE VALUES DO NOT MATCH THE EQUATION VALUES AT ALL POINTS. THESE VARIATIONS DON'T AFFECT THE MONTHLY MOISTURE CHANGE VALUES BY MORE THAN 0.01.
- 10 COMPUTED TABLE VALUES HAVE BEEN ROUNDED TO THE NEAREST 0.01 FOR PRINTING FORMAT. COMPUTER STORAGE ACCURACY OF 0.0001.

55.07 million years : 199

TABLE: THE FOLLOWING CONDITIONS WERE USED IN COMPUTING THIS WATER BALANCE PER THORNTON & MATHUR / EPA 1975 METHODS.

- 1 THE FOLLOWING SITE HAS BEEN ESTIMATED TO BE AT 43.37 DEGREES NORTH LATITUDE.
- 2 THE FOLLOWING STATION, AT THE NOTED RELATIVE LOCATION WAS REFERENCED FOR ATMOSPHERIC DATA
- 3 1 BARABOO WHICH IS 6.5 MILES FROM THE SITE LOCATION
- 4 2 FAIRIE DU SAC 2 N WHICH IS 5.7 MILES SSW THE SITE LOCATION
- 5 THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) DATA FOR PRECIPITATION AND TEMPERATURE, FOR THE YEARS
- 6 1951 THROUGH 1980 FOR THE STATION NOTED IN ITEM 2, HAS BEEN CALCULATED USING THE EQUATION DEVELOPED BY THORNTON AND
- 7 THORNTON. POTENTIAL EVAPO-TRANSPIRATION VALUES HAVE BEEN CALCULATED USING THE EQUATION DEVELOPED BY THORNTON AND
- 8 THORNTON. AND NOT EFA/1975, TABLE 3 WHICH VARIES AS MUCH AS 0.01 FROM THE DEFINING EQUATION.
- 9 A SNOW FAL (IN EQUIVALENT INCHES OF RAINFALL) IS ACCUMULATED FOR EACH SUR 32 DEGREE FAREHNEIT MONTH FROM OCTOBER
- 10 THROUGH SEPTEMBER. THE TOTAL SNOW FAL IS THEN DISPERSED AS EQUIVALENT PRECIPITATION DURING A SPRING MELT EVENT,
- 11 STARTING WHEN TEMPERATURES APPROACH 32 DEGREES.
- 12 THE CORRECTED EQUIVALENT PRECIPITATION IS THE SUM OF THE MONTHLY PRECIPITATION MINUS THE AMOUNT ADDED TO THE
- 13 ACCUMULATED SNOW FAL PLUS THE ESTIMATED MONTHLY SNOW MELT.
- 14 RUNOFF COEFFICIENTS HAVE BEEN SELECTED FOR CHOW, PENN, ET.AL. FOR THE TOPSOIL TYPE SPECIFIC TO THIS SITE FOR
- 15 THE SURFACE SLOPE WHICH HAS BEEN ESTIMATED AS .04 FEET PER FOOT.
- 16 SELECTING AVAILABLE MOISTURE VALUES TO REFLECT THE GENERAL VALUES NOTED BY EFA/1975, THE FOLLOWING COVER
- 17 SYSTEM HAS BEEN ANALYZED: THE ROOT ZONE HAS BEEN ESTIMATED AT: 6 INCHES
- 18 THE FURIAL COVER WAS SET AT: 12 INCHES OF FINE SAND WITH 10 % AVAILABLE MOISTURE
- 19 FOR MONTHS WHEN POTENTIAL EVAPO-TRANSPIRATION EXCEEDS INFILTRATION, THE MOISTURE STORAGE VALUES ARE COMPUTED BY
- 20 THE EQUATION USED TO COMPUTE EFA/1975 TABLE 11 THROUGH 22. THE VALUES DO NOT MATCH THE EQUATION VALUES AT
- 21 ALL POINTS. THESE VARIATIONS DON'T AFFECT THE MONTHLY MOISTURE CHANGE VALUES BY MORE THAN 0.01.
- 22 ALL COMPUTED TABLE VALUES HAVE BEEN ROUNDED TO THE NEAREST 0.01 FOR PRINTING FORMAT. COMPUTED STORAGE ACCURACY OF
- 23 100% STORAGE, RESULTS IN AN OVERALL TOTAL PRECIPITATION VALUE ACCURACY OF PLUS OR MINUS 0.05.

Appendix H.2
Gradient Calculations

PROJECT BAAP Vertical Gradients
Propellant Burning Ground

COMP BY

DRP

JOB NO.

6853-10

CHK BY

ET

DATE

10/9/92

December 1991 Water Level
Data used, unless otherwise
noted.

WELL NEST

GRADIENT

PBN-82-01A
PBN-82-01B

$$i = \frac{772.22 - 772.24}{19 \text{ ft}} = \frac{0.02}{19 \text{ ft}} = 0.0011 \uparrow \text{ insignificant water level diff.}$$

PBN-82-01B
PBN-82-01C

$$i = \frac{772.24 - 772.26}{9 \text{ ft}} = \frac{0.02}{9 \text{ ft}} = 0.0022 \uparrow \text{ insignificant water level diff.}$$

PBN-82-02A
PBN-82-02B

$$i = \frac{771.39 - 771.51}{17 \text{ ft}} = \frac{0.12}{17 \text{ ft}} = 0.0071 \uparrow$$

PBN-82-02B
PBN-82-02C

$$i = \frac{771.51 - 771.45}{9 \text{ ft}} = \frac{0.06}{9 \text{ ft}} = 0.0067 \downarrow$$

PBN-82-03A
PBN-82-03B

$$i = \frac{769.59 - 769.60}{16 \text{ ft}} = \frac{0.01}{16 \text{ ft}} = 0.0006 \uparrow \text{ insignificant water level diff.}$$

PBN-82-03B
PBN-82-03C

$$i = \frac{769.60 - 769.59}{9 \text{ ft}} = \frac{0.01}{9 \text{ ft}} = 0.0011 \downarrow \text{ insignificant water level diff.}$$

PBN-82-04A
PBN-82-04B

$$i = \frac{769.19 - 769.27}{16 \text{ ft}} = \frac{0.08}{16 \text{ ft}} = 0.0050 \uparrow$$

PBN-82-04B
PBN-82-04C

$$i = \frac{769.27 - 769.27}{10 \text{ ft}} = \frac{0.0}{10 \text{ ft}} = 0.0 \text{ no water level difference}$$

PBN-82-05A
PBN-82-05B

$$i = \frac{769.82^* - 769.73^*}{15 \text{ ft}} = \frac{0.09}{15 \text{ ft}} = 0.0060 \downarrow$$

PROJECT EAAP Vertical Gradients Propellant Burning Ground	COMP BY DRD	JOB NO 6853-10
	CHK BY EF	DATE 10/9/92

WELL/EST	GRADIENT	COMMENTS
PBN-82-05B PBN-82-05C	$i = \frac{769.73^* - 769.78^*}{10 \text{ ft}} = \frac{0.05}{10 \text{ ft}} = 0.0050 \uparrow$	small water level diff
PBN-85-01A PBN-89-01B	$i = \frac{768.60 - 768.31}{48 \text{ ft}} = \frac{0.29}{48 \text{ ft}} = 0.0060 \downarrow$	
PBN-89-01B PBN-89-01C	$i = \frac{768.31 - 768.42}{32 \text{ ft}} = \frac{0.11}{32 \text{ ft}} = 0.0034 \uparrow$	
PBN-89-01C PBN-89-01D	$i = \frac{768.42 - 768.43}{43 \text{ ft}} = \frac{0.01}{43 \text{ ft}} = 0.0002 \uparrow$	insignificant water level diff
PBN-85-02A PBN-89-02B	$i = \frac{768.56 - 767.25}{28 \text{ ft}} = \frac{1.31}{28 \text{ ft}} = 0.0468 \downarrow$	substantial gradient
PBN-89-02B PBN-89-02C	$i = \frac{767.25 - 767.52}{33 \text{ ft}} = \frac{0.27}{33 \text{ ft}} = 0.0082 \uparrow$	
PBN-85-03A PBN-89-03B	$i = \frac{768.26 - 767.59}{36 \text{ ft}} = \frac{0.67}{36 \text{ ft}} = 0.0186 \downarrow$	
PBN-89-03B PBN-89-03C	$i = \frac{767.59 - 768.27}{35 \text{ ft}} = \frac{0.68}{35 \text{ ft}} = 0.0194 \uparrow$	
PBN-85-04A PBN-89-04B	$i = \frac{766.61 - 766.27}{37 \text{ ft}} = \frac{0.34}{37 \text{ ft}} = 0.0092 \downarrow$	

PROJECT BAAP Vertical Gradients Propellant Burning Ground	COMP BY DRP	JOB NO 6853-10
	CHK BY LEF	DATE 10/9/92

WELL NEST	GRADIENT	COMMENTS
PBN-89-04B PBN-89-04C	$i = \frac{766.27 - 766.80}{37 \text{ ft}} = \frac{0.53}{37 \text{ ft}} = 0.0143 \uparrow$	
PBN-89-10A PBN-89-10B	$i = \frac{770.61 - 770.55}{46 \text{ ft}} = \frac{0.06}{46 \text{ ft}} = 0.0013 \downarrow$	small water level diff.
PBN-89-10B PBN-89-10C	$i = \frac{770.55 - 770.89}{29 \text{ ft}} = \frac{0.34}{29 \text{ ft}} = 0.0117 \uparrow$	
PBN-89-10C PBN-89-10D	$i = \frac{770.89 - 770.63}{48 \text{ ft}} = \frac{0.26}{48 \text{ ft}} = 0.0054 \downarrow$	
PBN-89-12A PBN-89-12B	$i = \frac{764.43 - 764.33}{44 \text{ ft}} = \frac{0.10}{44 \text{ ft}} = 0.0023 \downarrow$	small water level diff.
PBN-89-12B PBN-91-12C	$i = \frac{764.33 - 764.27}{45 \text{ ft}} = \frac{0.06}{45 \text{ ft}} = 0.0013 \downarrow$	small water level diff.
PBN-91-12C PBN-91-12D	$i = \frac{764.27 - 764.22}{45 \text{ ft}} = \frac{0.05}{45 \text{ ft}} = 0.0011 \downarrow$	insignificant water level diff.
PBN-85-06 PBN-91-06C	$i = \frac{765.33 - 765.42}{111 \text{ ft}} = \frac{0.09}{111 \text{ ft}} = 0.0008 \uparrow$	small water level diff.
PBN-91-06C PBN-91-06D	$i = \frac{765.42 - 765.44}{53 \text{ ft}} = \frac{0.02}{53 \text{ ft}} = 0.0004 \uparrow$	insignificant water level diff.

PROJECT BAAP Vertical Gradients Settling Ponds and Spoils Disposal Areas	COMP. BY DRP	JOB NO 6853-10
	CHK BY EF	DATE 10/9/92

WELL NEST	GRADIENT	COMMENTS
S1101 S1133	$i = \frac{761.87 - 761.91}{37 \text{ ft}} = \frac{0.04}{37 \text{ ft}} = 0.0011 \uparrow$	Negligible water level diff.
S1133 SPN-89-01C	$i = \frac{761.91 - 761.86}{24 \text{ ft}} = \frac{0.05}{24 \text{ ft}} = 0.0021 \downarrow$	Small water level diff.
SPN-89-02A SPN-89-02B	$i = \frac{761.82 - 761.82}{36 \text{ ft}} = \frac{0.0}{36 \text{ ft}} = 0.0$	No water level difference
SPN-89-02B SPN-89-02C	$i = \frac{761.82 - 761.81}{30 \text{ ft}} = \frac{0.01}{30 \text{ ft}} = 0.0003 \downarrow$	Negligible water level diff.
SPN-89-02C SPN-91-02D	$i = \frac{761.81 - 761.81}{53 \text{ ft}} = \frac{0.0}{53 \text{ ft}} = 0.0$	No water level difference
S1147 SPN-89-03B	$i = \frac{762.28 - 762.18}{35 \text{ ft}} = \frac{0.10}{35 \text{ ft}} = 0.0029 \downarrow$	Small water level diff.
SPN-89-03B SPN-89-03C	$i = \frac{762.18 - 762.20}{34 \text{ ft}} = \frac{0.02}{34 \text{ ft}} = 0.0006 \uparrow$	Negligible water level diff.
SPN-89-03C SPN-91-03D	$i = \frac{762.20 - 762.08}{63 \text{ ft}} = \frac{0.12}{63 \text{ ft}} = 0.0019 \downarrow$	
S1148 SPN-89-04B	$i = \frac{761.94 - 761.87}{30 \text{ ft}} = \frac{0.07}{30 \text{ ft}} = 0.0023 \downarrow$	Small water level difference

PROJECT BAAP Vertical Gradients
Settling Ponds and Spoils Disposal Areas

COMP BY
DRP
CHK BY
EF

JOB NO
6853-10
DATE
10/9/92

WELL NEST

GRADIENT

COMMENTS

SPN-89-04B
SPN-89-04C

$$i = \frac{761.87 - 761.91}{32 \text{ ft}} = \frac{0.04}{32 \text{ ft}} = 0.0013 \uparrow \text{ Insignificant water level diff.}$$

SPN-89-04C
SPN-91-04D

$$i = \frac{761.91 - 761.89}{100 \text{ ft}} = \frac{0.02}{100 \text{ ft}} = 0.0002 \downarrow \text{ Insignificant water level diff.}$$

S1152A
S1152B

$$i = \frac{761.65 - 761.65}{22 \text{ ft}} = \frac{0.0}{22 \text{ ft}} = 0.0 \text{ No water level diff.}$$

S1152B
S1103

$$i = \frac{761.65 - 761.89}{51 \text{ ft}} = \frac{0.24}{51 \text{ ft}} = 0.0047 \uparrow$$

S1104
S1105

$$i = \frac{762.39 - 762.41}{23 \text{ ft}} = \frac{0.02}{23 \text{ ft}} = 0.0009 \uparrow \text{ Insignificant water level diff.}$$

S1105
S1106

$$i = \frac{762.41 - 762.35}{26 \text{ ft}} = \frac{0.06}{26 \text{ ft}} = 0.0023 \downarrow \text{ Small water level diff.}$$

SPN-89-05A
SPN-89-05B

$$i = \frac{762.67 - 762.61}{43 \text{ ft}} = \frac{0.06}{43 \text{ ft}} = 0.0014 \downarrow \text{ Small water level diff.}$$

PROJECT BAAP Horizontal Gradients
Water Table
Propellant Burning Ground

COMP BY
DPP
CHK BY
EF

JOB NO
6853-10
DATE
10/9/92

<u>WELLS</u>	<u>GRADIENT</u>	<u>COMMENT</u>
PBM-89-11 LON-89-03A	$i = \frac{773.9 - 771.11}{2,050 \text{ ft}} = \frac{2.79 \text{ ft}}{2,050 \text{ ft}} = 0.0014$	Northern PBG SE flow vector
PBM-82-01 PBN-82-04A	$i = \frac{771.23 - 769.19}{1,375 \text{ ft}} = \frac{2.04 \text{ ft}}{1,375 \text{ ft}} = 0.0015$	Beneath PBG SE flow vector
PBN-82-03A PBM-89-07	$i = \frac{769.71^* - 766.04^*}{2,650 \text{ ft}} = \frac{3.67 \text{ ft}}{2,650 \text{ ft}} = 0.0014$	South of PBG S. Flow vector
PBM-85-06 S1148	$i = \frac{765.33 - 761.94}{2,450 \text{ ft}} = \frac{3.39 \text{ ft}}{2,450 \text{ ft}} = 0.0014$	PBG & SPA area S. Flow vector

Note: Water level data from 12/15/91.
* - April 1992 water level data

PROJECT BAAP Horizontal Gradients Gravel/Cobble Zone Propellant Burning Ground	COMP BY DRP	JOB NO 6853-10
	CHK BY EF	DATE 10/9/92

<u>WELLS</u>	<u>GRADIENT</u>	<u>COMMENT</u>
PBN-89-10B PBN-89-01B	$i = \frac{770.55 - 768.31}{1,650 \text{ ft}} = \frac{2.24 \text{ ft}}{1,650 \text{ ft}} = 0.0014$	PBG southerly vector
PBN-89-01B PBN-89-04B	$i = \frac{768.31 - 766.27}{1,675 \text{ ft}} = \frac{2.04}{1,675 \text{ ft}} = 0.0012$	"
PBN-89-04B PBN-89-12B	$i = \frac{766.27 - 764.33}{1,300 \text{ ft}} = \frac{1.94}{1,300 \text{ ft}} = 0.0015$	"

PROJECT BAAP VERTICAL GRADIENTS
 DETERRENT BURNING GROUND

COMP BY
 LEF
 CHK BY
 PLB

JOB NO
 5753-11
 DATE
 10-8-92

WELL NEST GRADIENT COMMENT

DBN-89-04A+B $i = \frac{780.25 - 776.79}{40 \text{ ft}} = \frac{3.46'}{40'} = 0.0865'$

DBN-89-02A+B $i = \frac{777.04 - 776.94}{37 \text{ ft}} = \frac{0.10'}{37'} = 0.0027' \downarrow$ Small Water Level Difference

S1122+DBN-82-01B $i = \frac{777.12 - 777.06}{22 \text{ ft}} = \frac{0.06'}{22'} = 0.0027' \downarrow$ Small Water Level Difference

DBN-82-01B+C $i = \frac{777.06 - 777.13}{10 \text{ ft}} = \frac{0.07'}{10'} = 0.0070' \uparrow$ Small Water Level Difference

ELN-91-07A+B $i = \frac{776.88 - 776.90}{23 \text{ ft}} = \frac{0.02'}{23'} = 0.0009' \uparrow$ Insignificant Water Level Difference

PROJECT BAAP VERTICAL GRADIENTS DETERMINATION OF GROUND/ESTABLISHED	COMP BY LEF	JOB NO 5752
	CHK BY PLB	DATE 10-8-92

WELL NEST GRADIENT COMMENT

ELN-89-02 A+B $i = \frac{776.88 - 776.24}{27 \text{ ft}} = \frac{0.64'}{27'} = 0.0237 \downarrow$

ELN-89-04 A+B $i = \frac{776.86 - 776.06}{44 \text{ ft}} = \frac{0.80'}{44'} = 0.0182 \downarrow$

SI153 + ELN-89-06 B $i = \frac{777.07 - 776.73}{49 \text{ ft}} = \frac{0.34'}{49'} = 0.0069 \downarrow$

ELN-82-01 A+B $i = \frac{777.82 - 777.76}{16 \text{ ft}} = \frac{0.06'}{16'} = 0.0038 \downarrow$ Small Water Level Difference

ELN-82-01 B+C $i = \frac{777.76 - 777.44}{9 \text{ ft}} = \frac{0.32'}{9'} = 0.0356 \downarrow$

ELN-82-02 A+B $i = \frac{777.39 - 777.43}{14 \text{ ft}} = \frac{0.04'}{14'} = 0.0029 \uparrow$ Insignificant Water Level Difference

ELN-82-02 B+C $i = \frac{777.43 - 777.41}{11 \text{ ft}} = \frac{0.02'}{11'} = 0.0018 \downarrow$ Insignificant Water Level Difference

ELN-82-03 A+B $i = \frac{777.28 - 777.11}{15 \text{ ft}} = \frac{0.17'}{15'} = 0.0113 \downarrow$ Small Water Level Difference

ELN-82-03 B+C $i = \frac{777.11 - 777.11}{10 \text{ ft}} = \frac{0'}{10'} = 0.0000$

ELN-82-04 A+B $i = \frac{778.09 - 777.83}{18 \text{ ft}} = \frac{0.26'}{18'} = 0.0144 \downarrow$

ELN-82-04 B+C $i = \frac{777.83 - 777.27}{8 \text{ ft}} = \frac{0.56'}{8'} = 0.0700 \downarrow$

PROJECT: EARP HORIZONTAL GRADIENT DETERMINATION	COMP BY LEE	JOB NO 5752-11
	CHK BY RJB	DATE 12-1-11

WELLS

GRADIENT

COMMENT

DBM-82-02 and
ELM-89-09

$$i = \frac{780.56 - 779.21}{350 \text{ ft}} = \frac{1.35'}{350'} = 0.0039 \text{ above silt layer}$$

DBM-89-05 and
ELM-89-01

$$i = \frac{783.89 - 778.05}{1,150 \text{ ft}} = \frac{5.84'}{1,150'} = 0.0051 \text{ above silt layer}$$

DBM-89-04A and
ELN-82-04A

$$i = \frac{780.25 - 778.09}{750 \text{ ft}} = \frac{2.16'}{750'} = 0.0029 \text{ above silt layer}$$

ELM-89-09 and
ELN-82-03A

$$i = \frac{779.21 - 777.28}{1,150 \text{ ft}} = \frac{1.93'}{1,150'} = 0.0017 \text{ above silt layer}$$

ELN-82-03C and
ELN-89-06B

$$i = \frac{777.11 - 776.73}{500 \text{ ft}} = \frac{0.38'}{500'} = 0.0008 \text{ below silt layer}$$

ELM-89-08 and
ELN-91-07B

$$i = \frac{776.97 - 776.90}{1,440 \text{ ft}} = \frac{0.07'}{1,440'} = 0.00005$$

below silt layer
Small Water Level
Difference

PROJECT **BAAP** Horizontal Gradients
Rocket Paste Area, NG Pond, New Acid
Area

COMP BY
DRD
CHK BY
CF

JOB NO
6853-10
DATE
10/9/92

WELLS

GRADIENT

S1124 and
NPM-89-01

$$i = \frac{776.47 - 776.08}{490 \text{ ft}} = \frac{0.39 \text{ ft}}{490 \text{ ft}} = 0.0008$$

NPM-89-01 and
RPM-89-01

$$i = \frac{776.08 - 774.76}{3000 \text{ ft}} = \frac{1.32 \text{ ft}}{3000 \text{ ft}} = 0.0004$$

NAN-81-04B and
S1118

$$i = \frac{777.0 - 773.82}{5700 \text{ ft}} = \frac{3.18}{5700 \text{ ft}} = 0.0006$$

December 1991 Water Level Data was used to calculate
gradients.

PROJECT	BAAP Horizontal Gradients Old Acid Area and Old Fuel Oil Tank Area	COMP BY	JOB NO
		DRP	6853-10
		CHK BY	DATE
		LEF	10/9/92

WELLS

GRADIENT

COMMENT

OAM-89-01 and
OAM-89-02

$$i = \frac{786.01 - 785.72}{290 \text{ ft}} = \frac{0.29 \text{ ft}}{290 \text{ ft}} = 0.0010$$

OAM-89-02 and
S1126

$$i = \frac{785.72 - 785.05}{470 \text{ ft}} = \frac{0.67 \text{ ft}}{470 \text{ ft}} = 0.0014$$

OAM-89-01 and
S1126

$$i = \frac{786.01 - 785.05}{750 \text{ ft}} = \frac{0.96}{750 \text{ ft}} = 0.0013$$

December 1991 Water Level Data was used to
calculate gradients

PROJECT Off-Rest Area South of BAP
Vertical Gradients

COMP BY
JHE
CHK BY
EF

JOB NO
6853-07
DATE
9/19/92

WELL TEST

G-RADIENT

PBN-91-01C
PBM-90-01D

$$i = \frac{742.99 - 743.25}{57 \text{ ft}} = \frac{0.26 \text{ ft}}{57 \text{ ft}} = 0.0046 \uparrow$$

Small Water
Level Difference

PBN-91-02B
PBN-91-02C

$$i = \frac{742.86 - 742.94}{45 \text{ ft}} = \frac{0.08 \text{ ft}}{45 \text{ ft}} = 0.0018 \uparrow$$

Insignificant
Water Level
Difference

PBN-91-02C
PBM-90-02D

$$i = \frac{742.94 - 742.78}{45 \text{ ft}} = \frac{0.16 \text{ ft}}{45 \text{ ft}} = 0.0036 \downarrow$$

Small Water
Level Difference

PBN-91-03B
PBN-91-03C

$$i = \frac{742.11 - 742.18}{46 \text{ ft}} = \frac{0.07 \text{ ft}}{46 \text{ ft}} = 0.0015 \uparrow$$

Insignificant
Water Level
Difference

PBN-91-03C
PBM-90-03D

$$i = \frac{742.18 - 742.04}{47 \text{ ft}} = \frac{0.14 \text{ ft}}{47 \text{ ft}} = 0.0030 \downarrow$$

Small Water
Level Difference

PBN-90-04B
PBN-90-04D

$$i = \frac{738.80 - 738.73}{102 \text{ ft}} = \frac{0.07 \text{ ft}}{102 \text{ ft}} = 0.0007 \downarrow$$

Insignificant
Water Level
Difference

SWN-91-01B
SWN-91-01C

$$i = \frac{754.77 - 754.76}{50 \text{ ft}} = \frac{0.01 \text{ ft}}{50 \text{ ft}} = 0.0002 \downarrow$$

SWN-91-01C
SWN-91-01D

$$i = \frac{754.76 - 754.76}{39 \text{ ft}} = \frac{0.00}{39 \text{ ft}} = 0.000 -$$

SWN-91-02C
SWN-91-02D

$$i = \frac{753.80 - 753.76}{32 \text{ ft}} = \frac{0.04 \text{ ft}}{32 \text{ ft}} = 0.0012 \downarrow$$

PROJECT <i>Off-Road Area South of LAHP</i> <i>Vertical Gradients</i>

COMP BY <i>JFE</i>
CHK BY <i>LEF</i>

JOB NO <i>06853-02</i>
DATE <i>9/6/02</i>

WELL NEST

GRADIENT

SWN-91-03B
SWN-91-03C

$$i = \frac{752.33 - 752.37}{51 \text{ ft}} = \frac{0.04 \text{ ft}}{51 \text{ ft}} = 0.0008 \uparrow$$

*Insignificant
Water Level
Difference*

SWN-91-03C
SWN-91-03D

$$i = \frac{752.37 - 752.34}{46 \text{ ft}} = \frac{0.03 \text{ ft}}{46 \text{ ft}} = 0.0006 \downarrow$$

SWN-91-03D
SWN-91-03E

$$i = \frac{752.34 - 752.30}{28 \text{ ft}} = \frac{0.04 \text{ ft}}{28 \text{ ft}} = 0.0014 \downarrow$$

SWN-91-04C
SWN-91-04D

$$i = \frac{750.88 - 750.95}{32 \text{ ft}} = \frac{0.07 \text{ ft}}{32 \text{ ft}} = 0.0022 \uparrow$$

SWN-91-05B
SWN-91-05C

$$i = \frac{748.26 - 748.18}{36 \text{ ft}} = \frac{0.08 \text{ ft}}{36 \text{ ft}} = 0.0022 \downarrow$$

SWN-91-05C
SWN-91-05D

$$i = \frac{748.18 - 748.00}{55 \text{ ft}} = \frac{0.18 \text{ ft}}{55 \text{ ft}} = 0.0033 \downarrow$$

*Small Water
Level
Difference*

PROJECT <i>Off-Post Area South of ZAAP</i> <i>Horizontal Gradients</i>	COMP BY <i>JAB</i>	JOB NO <i>6853-07</i>
	CHK BY <i>EF</i>	DATE <i>9/16/92</i>

WELLS	GRADIENT	Comment
SWN-91-03B PBN-91-02B	$i = \frac{752.33 - 742.86}{4,000 \text{ ft}} = \frac{9.47 \text{ ft}}{4,000 \text{ ft}} = 0.0024$	flow-line near center of plume
SWN-91-04C SWN-91-05C	$i = \frac{750.88 - 748.18}{900 \text{ ft}} = \frac{2.70 \text{ ft}}{900 \text{ ft}} = 0.0030$	flow-line east of plume, closer to WPL dam
SWN-91-01B PBN-91-03B	$i = \frac{754.77 - 742.11}{6,400 \text{ ft}} = \frac{12.66}{6,400} = 0.0020$	flow-line west of plume, further from WPL dam

Appendix H.3
Velocity Calculations

PROJECT BAAP Groundwater Flow Velocities
Propellant Burning Ground

COMP BY
DRP

JOB NO
6853-10

CHK BY
EF

DATE
10/9/92

Calculate the average linear flow velocity in the PBG/SPA area, assume:

- 1) $K = 5.3 \times 10^{-2}$ to 8.5×10^{-2} cm/sec with median value of 6.9×10^{-2} cm/sec (values from aquifer pumping test)
- 2) $n = 0.25$ to 0.35
- 3) $i = 0.0015$ max (use with low K soils)
 $i = 0.0013$ min (use with high K soils)
 $i = 0.0014$ median (use with median K soils)

$$\bar{V}_{\max} = \frac{(K_{\max})(i_{\min})}{n_{\min}} = \frac{(8.5 \times 10^{-2} \text{ cm/sec})(0.0013)}{0.25}$$

$$= 4.4 \times 10^{-4} \text{ cm/sec}$$

$$\cong 460 \text{ ft/yr}$$

$$\bar{V}_{\min} = \frac{(K_{\min})(i_{\max})}{n_{\max}} = \frac{(5.3 \times 10^{-2} \text{ cm/sec})(0.0015)}{0.35}$$

$$= 2.3 \times 10^{-4} \text{ cm/sec}$$

$$\cong 235 \text{ ft/yr}$$

$$\bar{V}_{\text{median}} = \frac{(\bar{K})(\bar{i})}{\bar{n}} = \frac{(6.9 \times 10^{-2} \text{ cm/sec})(0.0014)}{0.30}$$

$$= 3.22 \times 10^{-4} \text{ cm/sec}$$

$$\cong 330 \text{ ft/yr}$$

PROJECT BAMP-DETERRENT BURNING GROUND

COMP BY

LEF

JOB NO

5753-11

GROUNDWATER FLOW VELOCITIES

CHK BY

JAB

DATE

10-9-92

I Calculate the average linear flow velocity for groundwater in the elevated/perched flow system, assume:

a. $k = 1 \times 10^{-3}$ to 7×10^{-3} cm/sec

b. $n = 0.25$ to 0.30

c. $i = 0.005$ to 0.002

$$\bar{V}_{\max} = \frac{k_{\max} i_{\min}}{n_{\min}} = \frac{(7 \times 10^{-3} \frac{\text{cm}}{\text{sec}})(0.002)}{0.25}$$

$$= 5.6 \times 10^{-5} \text{ cm/sec}$$

$$\approx 60 \text{ ft/yr}$$

$$\bar{V}_{\min} = \frac{k_{\min} i_{\max}}{n_{\max}} = \frac{(1 \times 10^{-3} \frac{\text{cm}}{\text{sec}})(0.005)}{0.30} = 1.7 \times 10^{-5} \text{ cm/sec}$$

$$\approx 20 \text{ ft/yr}$$

II Calculate the average linear velocity for groundwater in the deeper flow system, assume:

a. $k = 2 \times 10^{-1}$ to 2×10^{-2} cm/sec

b. $n = 0.25$ to 0.35

c. $i = 0.00005$ to 0.0008

$$\bar{V}_{\max} = \frac{k_{\max} i_{\max}}{n_{\min}} = \frac{(2 \times 10^{-1} \frac{\text{cm}}{\text{sec}})(0.0008)}{0.25} = 6.4 \times 10^{-4} \text{ cm/sec}$$

$$\approx 650 \text{ ft/yr}$$

$$\bar{V}_{\min} = \frac{k_{\min} i_{\min}}{n_{\max}} = \frac{(2 \times 10^{-2} \frac{\text{cm}}{\text{sec}})(0.00005)}{0.35} = 4.6 \times 10^{-5} \text{ cm/sec}$$

$$\approx 50 \text{ ft/yr}$$

Note: k_{\max} and i_{\max} are analyzed together here to better reflect field conditions.

PROJECT BAAP Groundwater Flow Velocities
Rocket Paste Area, NG Porri, New Acid Area

COMP BY
DRP

JOB NO
6853-10

CHK BY
EF

DATE
10/9/92

Calculate the average linear flow velocity in the Rocket Paste Area, Nitroglycerine Porri, New Acid Area

Assume: 1) $K = 1 \times 10^{-1}$ to 2×10^{-1}
2) $n = 0.25$ to 0.35
3) $i = 0.0004$ to 0.0008

$$\begin{aligned}\bar{V}_{\max} &= \frac{(K_{\max})(i_{\min})}{n_{\min}} = \frac{(2 \times 10^{-1} \text{ cm/sec})(0.0004)}{(0.25)} \\ &= 3.2 \times 10^{-4} \text{ cm/sec} \\ &\cong 330 \text{ ft/yr}\end{aligned}$$

$$\begin{aligned}\bar{V}_{\min} &= \frac{(K_{\min})(i_{\max})}{n_{\max}} = \frac{(1 \times 10^{-1} \text{ cm/sec})(0.0008)}{(0.35)} \\ &= 2.3 \times 10^{-4} \text{ cm/sec} \\ &\cong 240 \text{ ft/yr}\end{aligned}$$

$$\begin{aligned}\bar{V}_{\text{median}} &= \frac{(\bar{K})(\bar{i})}{(\bar{n})} = \frac{(1.5 \times 10^{-1})(0.0006)}{(0.30)} \\ &= 3.0 \times 10^{-4} \text{ cm/sec} \\ &\cong 310 \text{ ft/yr}\end{aligned}$$

PROJECT BAAP Groundwater Flow Velocities
Old Acid Area and Old Fuel Oil Tank Area

COMP BY

DRP

CHK BY

LEF

JOB NO

6853-10

DATE

10/9/92

Calculate the average linear flow velocity in the Old Acid
and Old Fuel Oil Tank Areas

Assume: 1) $K = 2 \times 10^{-2}$ to 3×10^{-2} cm/sec
2) $n = 0.25$ to 0.35
3) $i = 0.0010$ to 0.0014

$$\begin{aligned}\bar{V}_{\max} &= \frac{(K_{\max})(i_{\min})}{n_{\min}} = \frac{(3 \times 10^{-2} \text{ cm/sec})(0.0010)}{(0.25)} \\ &= 1.2 \times 10^{-4} \text{ cm/sec} \\ &\approx 125 \text{ ft/yr}\end{aligned}$$

$$\begin{aligned}\bar{V}_{\min} &= \frac{(K_{\min})(i_{\max})}{n_{\max}} = \frac{(2 \times 10^{-2} \text{ cm/sec})(0.0014)}{0.35} \\ &= 8 \times 10^{-5} \text{ cm/sec} \\ &\approx 85 \text{ ft/yr}\end{aligned}$$

$$\begin{aligned}\bar{V}_{\text{median}} &= \frac{(\bar{K})(\bar{i})}{(\bar{n})} = \frac{(2.5 \times 10^{-2} \text{ cm/sec})(0.0012)}{0.30} \\ &= 1.0 \times 10^{-4} \text{ cm/sec} \\ &\approx 105 \text{ ft/year}\end{aligned}$$

PROJECT Off-Post Area South of BAAP Groundwater Flow Velocity	COMP. BY JAB	JOB NO 6853-C7
	CHK BY EF	DATE 9/16/92

I Calculate the average linear flow velocity South of BAAP
assume:

- 1) $K = 1 \times 10^{-2}$ to 2×10^{-2} cm/sec with avg. value of 1.5×10^{-2}
- 2) $n = 0.25$
- 3) $i = 0.0019$ to 0.0024

$$\bar{V}_{max} = \frac{K_{max} I_{max}}{n} = \frac{(2 \times 10^{-2} \text{ cm/sec})(0.003)}{0.25} = 0.00024 \text{ cm/sec}$$

$$\approx 250 \text{ ft/yr}$$

$$\bar{V}_{avg} = \frac{K_{avg} I_{avg}}{n} = \frac{(1.5 \times 10^{-2} \text{ cm/sec})(0.0024)}{0.25} \approx 150 \text{ ft/yr}$$

$$\bar{V}_{min} = \frac{K_{min} I_{min}}{n} = \frac{(1 \times 10^{-2} \text{ cm/sec})(0.0019)}{0.25} \approx 80 \text{ ft/yr}$$

$$\bar{V}_{avgst} = \frac{K I_{avg}}{n} = \frac{(6.9 \times 10^{-2} \text{ cm/sec})(0.0024)}{0.25} = 680 \text{ ft/yr}$$

Appendix H.4
Preliminary Aquifer Test Results IRM

PROJECT BHAP Phase II Rough T+S Calcs from Olin P-test	COMP BY JAE	JOB NO. 6049-10
	CHK BY	DATE 3/8/10

T/R^2 Analysis

For Match Point based
upon all 5 wells

$$\begin{aligned}
 u &= 1 \\
 H(u) &= 1 \\
 S &= 0.046 \\
 t/r^2 &= 0.00093 \text{ min/ft}^2 \\
 &= 6.46 \times 10^{-3} \text{ day/ft}^2 \\
 Q &= 100 \text{ gpm}
 \end{aligned}$$

$$\begin{aligned}
 T &= \frac{114.6 Q H(u)}{S} \\
 &= \frac{114.6 (100 \text{ gpm})(1)}{0.046} \\
 &= 250,000 \text{ gpd/ft}^2
 \end{aligned}$$

$$\begin{aligned}
 K &= T/b \\
 &= 250,000 / 150 \\
 &= 1700 \text{ gpd/ft}
 \end{aligned}$$

$$\begin{aligned}
 S &= \frac{u T t}{1.87 r^2} \\
 &= \frac{(1)(250,000 \text{ gpd/ft}^2)(6.46 \times 10^{-3})}{1.87} \\
 &= 0.086 \\
 &\text{(unreasonably low)}
 \end{aligned}$$

for MW-1 data

$$\begin{aligned}
 u &= 1 \\
 H(u) &= 1 \\
 S &= 0.049 \\
 t/r^2 &= 0.0017 \text{ min/ft}^2 = 1.18 \times 10^{-6} \text{ day/ft}^2 \\
 Q &= 100 \text{ gpm}
 \end{aligned}$$

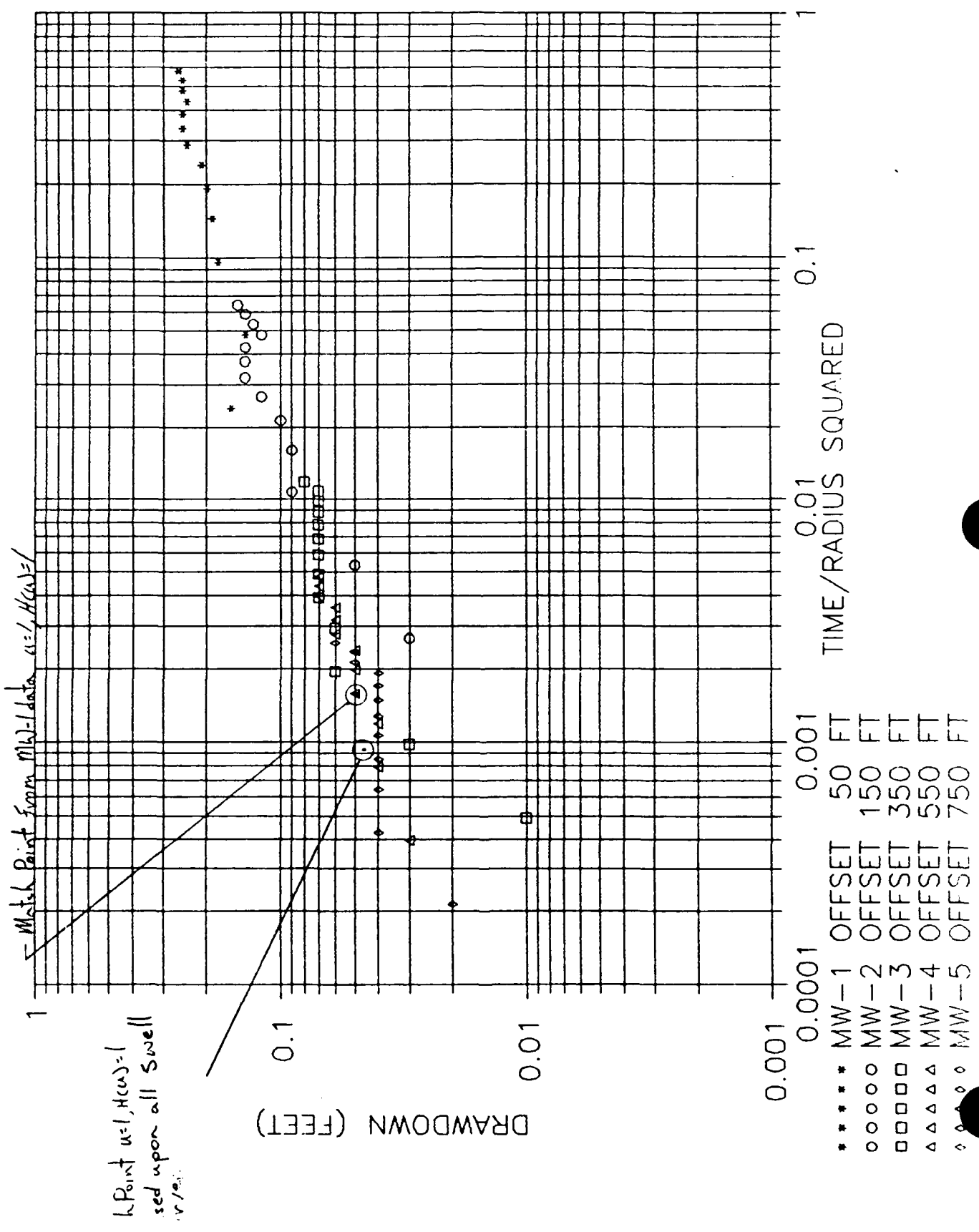
$$\begin{aligned}
 T &= \frac{114.6 Q H(u)}{S} \\
 &= \frac{114.6 (100 \text{ gpm})(1)}{0.049} \\
 &= 230,000 \text{ gpd/ft}^2
 \end{aligned}$$

$$\begin{aligned}
 K &= T/b \\
 &= \frac{230,000 \text{ gpd/ft}^2}{150 \text{ ft}} \\
 &= 1600 \text{ gpd/ft} = 7.2 \times 10^{-2} \text{ cm/sec}
 \end{aligned}$$

$$\begin{aligned}
 S &= \frac{u T t}{1.87 r^2} \\
 &= \frac{1 (230,000 \text{ gpd/ft}^2)(1.18 \times 10^{-6})}{1.87} \\
 &= 0.15
 \end{aligned}$$

appears slightly lower than
expected.

TIME/RADIUS SQUARED VS. DRAWDOWN



PROJECT EAP Phase II
 Rough T+S Cakes from Clin P test

COMP BY
 JAE
 CHK BY

JOB NO
 E049-10
 DATE
 3/7/89

Jell MW-2 Time-Drawdown Analyses
 Match Point from Entire Curve

$$\begin{aligned} u &= 1 \\ H(u) &= 1 \\ S &= 0.04 \text{ ft} \\ t &= 23 \text{ min} \\ r &= 150 \text{ ft} \\ Q &= 100 \text{ gpm} \end{aligned}$$

Then

$$\begin{aligned} T &= \frac{114.6 Q H(u)}{S} \\ &= \frac{114.6 (100 \text{ gpm}) (1)}{0.04 \text{ ft}} \\ &\approx 290,000 \text{ gpd/ft} \end{aligned}$$

$$K = T/b$$

$$\begin{aligned} &= \frac{290,000 \text{ GPD/ft}}{150 \text{ ft}} \\ &= 1900 \text{ gpd/ft} \end{aligned}$$

Match from late data only

$$\begin{aligned} u &= 1 \\ H(u) &= 1 \\ S &= 0.16 \text{ ft} \\ t &= 390 \text{ min} = 0.27 \text{ day} \\ r &= 150 \text{ ft} \\ Q &= 100 \text{ gpm} \end{aligned}$$

Then

$$\begin{aligned} T &= \frac{114.6 Q H(u)}{S} \\ &= \frac{114.6 (100 \text{ gpm}) (1)}{0.16 \text{ ft}} \\ &\approx 70,000 \text{ gpd/ft} \end{aligned}$$

$$K = T/b$$

$$\begin{aligned} &= \frac{70,000 \text{ gpd/ft}}{150 \text{ ft}} \\ &= 470 \text{ gpd/ft} \cdot 2 \times 10^{-2} \text{ cm/sec} \end{aligned}$$

Specific Yield Analyses

$$\begin{aligned} S &= \frac{u T t}{1.87 r^2} \\ &= \frac{(1)(70,000 \text{ gpd/ft})(0.27 \text{ day})}{1.87 (150 \text{ ft})^2} \end{aligned}$$

= 0.45
 appears quite high, indicates
 poor match, Therefore Trans-
 missivity Calc. is likely
 invalid

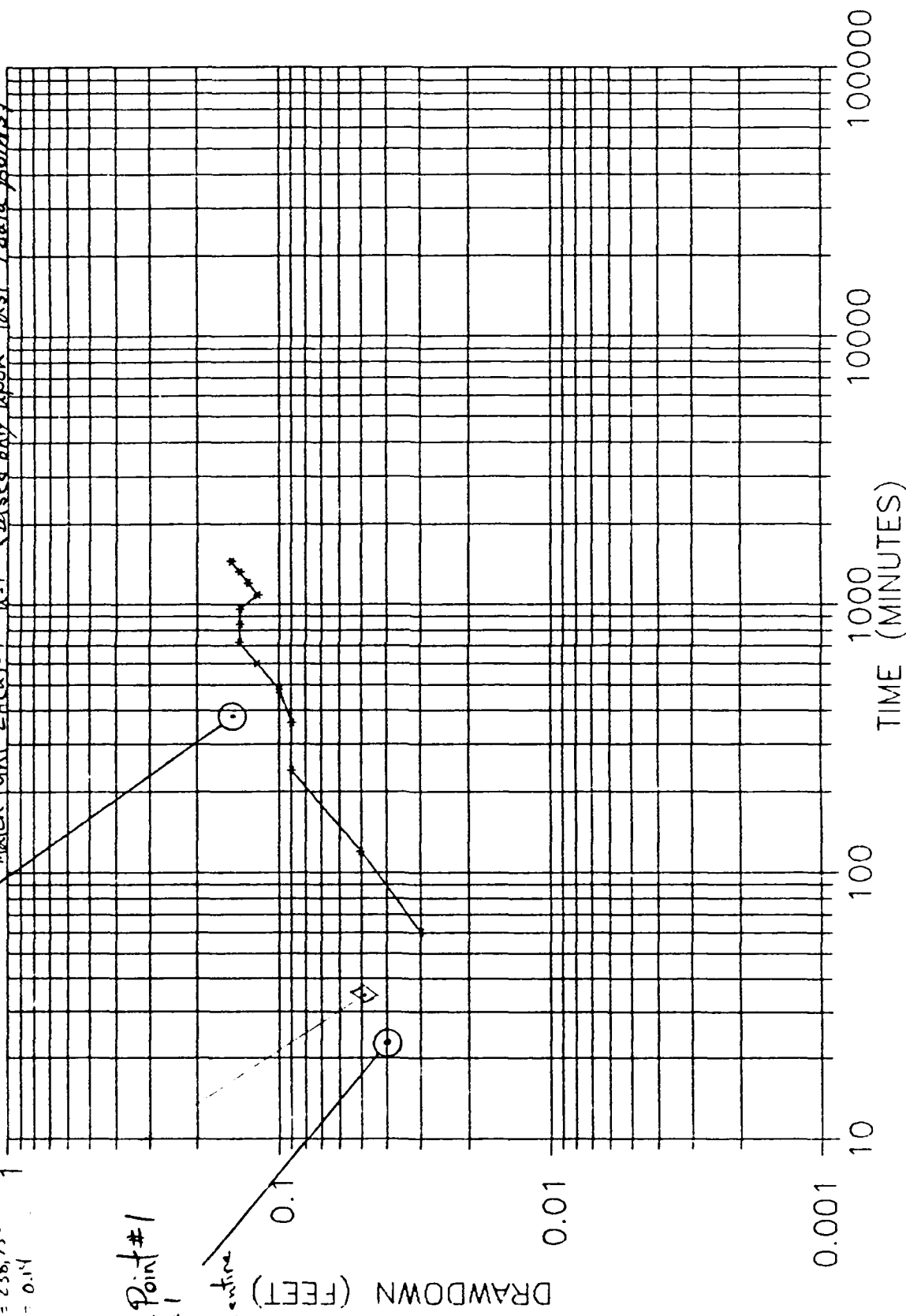
WELL MW-2 DISTANCE-DRAWDOWN

Time

#3
 $m^2(1,1)$
 all except 1st point
 $T = 238,250$
 $S = 0.14$

Match Point #2 $H(u) = 1$ $u = 1$ (based only upon last 4 data points)

Match Point #1
 $H(u) = 1$
 $u = 1$
 used upon entire curve



Appendix H.5
High Capacity Well Survey

HIGH CAPACITY WELL SURVEY REPORT
FEASIBILITY STUDY
BADGER ARMY AMMUNITION PLANT

During the period between May 14 and 24, 1990, E.C. Jordan Co. (Jordan) personnel performed a survey of off-post high capacity wells south of the Badger Army Ammunition Plant (BAAP). The purpose of this survey was threefold: (1) to estimate water table elevations south of BAAP from the high capacity wells; (2) to prepare a water table contour plan of this area with groundwater flow directions; and (3) to gain information for siting a series of off-post monitoring wells intended to characterize the nature of the volatile organic compound (VOC) plume south of BAAP. Data from the sampling and analysis of off-post residential wells by personnel from Olin were also considered in selecting monitoring well locations.

Objectives 1 and 2 were accomplished and the results of the high capacity well survey correlate well with the elevations and flow directions developed from Jordan's groundwater flow model of the BAAP region. The third objective, siting monitoring wells for plume definition, was modified upon receipt of the results from BAAP's residential well sampling program. The water quality sampling and analysis indicated the VOC plume had migrated downgradient at least three miles from the Propellant Burning Ground source area, to within one-third mile of the Wisconsin River. Based upon these results, the purpose of the new off-post monitoring wells was redefined to assess contaminant conditions in the southern portion of the plume, near Highway 78 and the Prairie du Sac municipal well. The Prairie du Sac municipal well (No. 2) is located just south of where the contaminant plume may be expected to discharge to the Wisconsin River, making a preliminary assessment of groundwater flow in this vicinity of critical importance. The results of the survey are discussed in greater detail in the following paragraphs.

SCOPE OF THE HIGH CAPACITY WELL SURVEY

Based on a field survey, review of Wisconsin Department of Natural Resources (WDNR) records, and discussions with well owners, 33 wells were identified for inclusion in this survey. Of these, 20 were high capacity wells and 13 were monitoring wells, "sand points," or residential wells. The locations of these wells are shown in Figure 1, and the owners and well types are identified in Table I.

After contacting well owners to gain permission for access, water levels were measured in each well. Where possible, an electronic water level meter was used to make measurements. However, for the irrigation wells, water levels were measured using an air-line measuring gauge present on most wells. The air-line gauges have questionable accuracy due to poor maintenance, inaccurate installations, and inefficiencies in operation. Groundwater levels measured with the air-line gauges may be off by 5 or more feet, as illustrated in the following paragraph. When possible, information on typical water levels was also gathered from irrigation well owners and/or well logs. The groundwater elevation data from all sources are tabulated in Table I.

The water level in the northern Kindshi well (well 2A), located northwest of the Highway 12-County Z intersection, was measured with a standard electronic water level meter as well as with the air-line gauge on the well. The electronic meter measured a water depth of 67 feet (elevation 758 feet above mean sea level, MSL), the air-line indicated a depth of 77 feet (elevation 748 feet, MSL), and the well log indicated a depth of 65 feet (elevation 760 feet, MSL). At other high capacity wells, the air-line water levels were also lower than levels supplied by owner information or well logs, typically by 5 to 15 feet. Based on the results of this comparison, the water levels obtained from well owners or well logs were generally considered more accurate than the air-line measurements.

To relate the elevation of the water table aquifer to the Wisconsin River, a series of six water level measuring points were established along the Wisconsin River south of the Wisconsin Power and Light (WP&L) dam. The location of these points are presented in Figure 1 and the measured elevations are listed in Table II. Information on the elevation of the reservoir above the dam was obtained from WP&L records. As Table II indicates, the water level of the river downstream from the dam varied by 2 to 3 feet during the period of field activities. However, this variation does not appear to substantially affect the water table in the study area. Water levels measured in monitoring wells below the dam (wells 7B through 7G and 16A through 16C) showed only a modest 0.2 to 0.3 foot decline in elevations from May 18 to June 7, 1990.

In order to obtain adequate elevation control for this off-post work, Vierbicher Associates, Inc. (Vierbicher) were contracted to perform a vertical survey of the irrigation wells, monitoring wells, and measuring points along the Wisconsin River. The surveyed elevations from Vierbicher are summarized in Tables I and II.

After reviewing the groundwater level data gathered at each well, the values that best reflected the expected water table elevations in the aquifer were utilized to assess the regional flow system. These values are presented on Figure 2 along with the results of a groundwater flow model completed for the BAAP region during the Phase II Remedial Investigation (RI).

MODEL OF THE GROUNDWATER FLOW SYSTEM

The numerical groundwater flow model developed for the BAAP region during the RI includes the area south of the installation where the high capacity well survey was conducted. Because the water levels generated by the model correlate well with the measured values, the model has been a very useful tool to assist in characterizing the flow system south of BAAP.

Jordan selected the USGS modular groundwater flow model (MODFLOW) for the BAAP RI. The model was applied in a two-dimensional aerial plan and reflects conditions in the sand and gravel glacial outwash water table aquifer. The model boundaries include no-flow conditions along the north where the Baraboo Hills rise as well as to the west where the outwash thins and sandstone outcrops occur. Above the WP&L dam, the Lake Wisconsin reservoir is treated as a river

with a low permeability bottom which restricts flow into or out of the reservoir. Below the WP&L dam, the river is treated as a constant head zone which receives groundwater discharge. These areas make up the lateral boundaries of the model. Recharge from precipitation has been applied to the model area at a rate of six inches per year. The aquifer permeability has been calibrated to approximately 100 to 200 feet per day which is well within the typical measured permeability range of 50 to 400 feet per day from slug tests and preliminary aquifer tests. Further details on the model description, calibration, and sensitivity analysis will be presented in the BAAP RI Report.

WATER QUALITY DATA

The water quality samples collected from residential wells in the area south of BAAP by Olin were analyzed for the VOCs found along the southern BAAP boundary (carbon tetrachloride, trichloroethylene, and chloroform). Table III summarizes the results of the analyses to date and the impacted wells are located on Figure 3. The analytical results show the presence of carbon tetrachloride and chloroform in three wells located within the likely flow path of the contaminant plume south of BAAP. A fourth well located adjacent to this flow path contained only chloroform. Chloroform was also detected in three wells located east of the expected plume flow path, but its presence at these residences may be related to chlorination of the water supply systems rather than activities at BAAP. None of the organic chemicals of concern were detected in the Prairie du Sac municipal well.

OFF-POST MONITORING WELL LOCATIONS

Figure 3 shows the impacted residential wells and presents the modeled water table contours for this area. Groundwater flow lines drawn from the approximate eastern and western boundaries of the plume area at the southern end of BAAP have been extended southward perpendicular to the contour lines to give an approximate expected orientation of the plume south of BAAP. This figure indicates the plume may be expected to discharge to the Wisconsin River north of the Prairie du Sac municipal well. However, it is important to note that neither the zone-of-influence of the Prairie du Sac municipal well nor the precise nature of the groundwater discharge conditions into the Wisconsin River have been taken into account.

To better characterize the southerly extent of the plume and to make a preliminary evaluation of the potential for future impacts to occur at the Prairie du Sac municipal well, Jordan recommends the installation of five additional deep monitoring wells. Proposed locations for these new wells are included on Figure 3. The wells designated 1 through 3 are intended to transect the plume and may encounter contaminated groundwater. Well 4, located upgradient of the Prairie du Sac municipal well and the Prairie du Sac industrial park, is intended to intercept a more southerly vector of groundwater flow which might bring the plume closer to the municipal well. Well 5, located north/northeast of the Prairie du Sac municipal well should provide preliminary data on the zone-of-influence of that well and may intercept contaminated groundwater flowing towards the well.

The wells should be screened over a 10 to 20 foot interval in coarse sand and gravel layers above the bedrock surface (approximately 225 to 250 feet below the ground surface). The permeable coarse sand and gravel layers are a likely preferential flow path for the VOC plume and may also transmit much of the water pumped by the Prairie du Sac municipal well. In addition, residential wells with the highest concentration of VOCs appear to be screened just above the bedrock surface.

The new wells will assist in characterizing the geologic and hydrogeologic subsurface conditions in this area. With this additional information, proper scoping for future investigations and remediation of the groundwater in this area may be completed. It is anticipated that future work may focus on refining the plume boundaries, evaluating the bedrock/overburden aquifer interactions, further characterizing the zone-of-influence of the Prairie du Sac municipal well, and assessing the groundwater discharge conditions to the Wisconsin River.

**OFF-POST GROUNDWATER ELEVATIONS
FEASIBILITY STUDY
BADGER ARMY AMMUNITION PLANT**

Well #	Well Owner	Well Type	Surf. Elev.	Water Depth In Feet	Water Elevation	Water Elevation
1A	Nolden	High Cap. -Irr.	828.05	92-A, 82-L	736-A, 746-L	746
1B	Nolden	High Cap. -Irr.	823.91	85-A	739-A	739
2A	Kindshl #1	High Cap. -Irr.	825.25	77-A, 67-E, 65-L	748-A, 758-E, 760-L	758
2B	Kindshl #3	High Cap. -Irr.	832.18	89 to 92-A, 80-L	743 to 740-A, 752-L	752
2C	Kindshl #2	High Cap. -Irr.	823.03	71 to 76-A, 62-L	752 to 747-A, 761-L	752
3A	No well existed at this location					
3B	Lins	High Cap. -Irr.	836.78	84-A, 80-L	753-A, 757-L	753
3C	Lins	High Cap. -Irr.	832.98	84-A, 79-L	749-A, 754-L	749
4	Mrs. Lloyd Mueller	High Cap. -Irr.	826.43	83-L	743-L	743
5A	Dan Ganser	High Cap. -Irr.	758.61	28-A, 19.5-O	731-A, 739-O	739
5B	Dan Ganser	High Cap. -Irr.	828.03	85 to 87-A, 80-O	743 to 741-A, 748-O	748
6A	Mel Bickford	High Cap. -Irr.	818.72	113-A, 100-O, 79-L	705-A, 719-O, 740-L	740
6B	Mel Bickford	High Cap. -Irr.	780.98	55-A, 47-O, 50-L	726-A, 734-O, 731-L	734
7A	Franz Weetenbach	High Cap. -Irr.	748.60	26-A	723-A	723
7B	DATCP SK4-1	Monitoring	746.26	11.12-E	735.14-E	735.14
7C	DATCP SK4-2	Monitoring	746.16	11.02-E	735.14-E	735.14
7D	DATCP SK4-3	Monitoring	746.02	10.88-E	735.14-E	735.14
7E	DATCP SK3-1	Monitoring	748.51	13.40-E	735.11-E	735.11
7F	DATCP SK3-2	Monitoring	748.47	13.37-E	735.10-E	735.10
7G	DATCP SK3-3	Monitoring	748.34	13.25-E	735.09-E	735.09
8	Dave Lohr	High Cap. -Irr.	850.85	96-A	755-A	755
9A	Weiss	High Cap. -Irr.	754.35	17-O	737-O	737
9B	Weiss	High Cap. -Irr.	759.97	22.2-E	738-E	738
10	Art Mueller	High Cap. -Irr.	820.44	80-O, 65-L	740-O, 755-L	755
11	City of Prairie du Sac	High Cap. -Irr.	785.87	69-A, 54-L	717-A, 732-L	732
12	Hunter VanAlstyne	High Cap. -Irr.	815.54	86-O	729-O	729
14	City of Prairie du Sac	Municipal	775.85	43-A	733-A	733
15	Dairy Coop	High Cap. -Prod.	755.49	39 Above Grade	794 (Artesian Bdrk)	794
16A	Tri County Coop	Monitoring	835.00	85.45-E	749.55-E	749.55
16B	Tri County Coop	Monitoring	837.27	85.25-E	752.02-E	752.02
16C	Tri County Coop	Monitoring	836.27	86.73-E	749.54-E	749.54
17	Zander	Residential	866.31	110.4-E	756-E	756
18A	Sauk City	Sand Point	753.78	20.00-E	734-E	734
18B	Sauk City (Fire Sta)	Monitoring	754.66	20.44-E	734.22-E	734.22
18C	Wash & Dallas St.	Sand Point	761.00	26.46-E	734.54-E	734.54

Note: Source of water level measurement data.

A= Airlino

E= Electric Probe

O= Owner information

L= Log

ph
offprint
6-13-93

TABLE II
OFF-POST SURFACE WATER ELEVATION
FEASIBILITY STUDY
BADGER ARMY AMMUNITION PLANT

Surface Water Point Temporary Benchmark	Benchmark Elevation ft., MSL	5-18-90 Water Depth ft.	5-18-90 Water Elev. ft., MSL	5-21-90 Water Depth ft.	5-21-90 Water Elev. ft., MSL	6-7-90 Water Depth ft.	6-7-90 Water Elev. ft., MSL
TBM-1	738.04	---	---	0.2	737.8	4.6	733.5
TBM-2	780.71	45.9	734.8	43.2	737.5	47.1	733.6
TBM-3	736.44	2.4	734.0	0.1	736.4	3.6	732.8
TBM-4	762.91	28.6	734.3	26.1	736.8	29.8	733.1
TBM-5	753.34	20.5	732.8	18.2	735.1	21.6	731.7
TBM-6	730.81	---	---	0.2	730.6	2.7	728.1

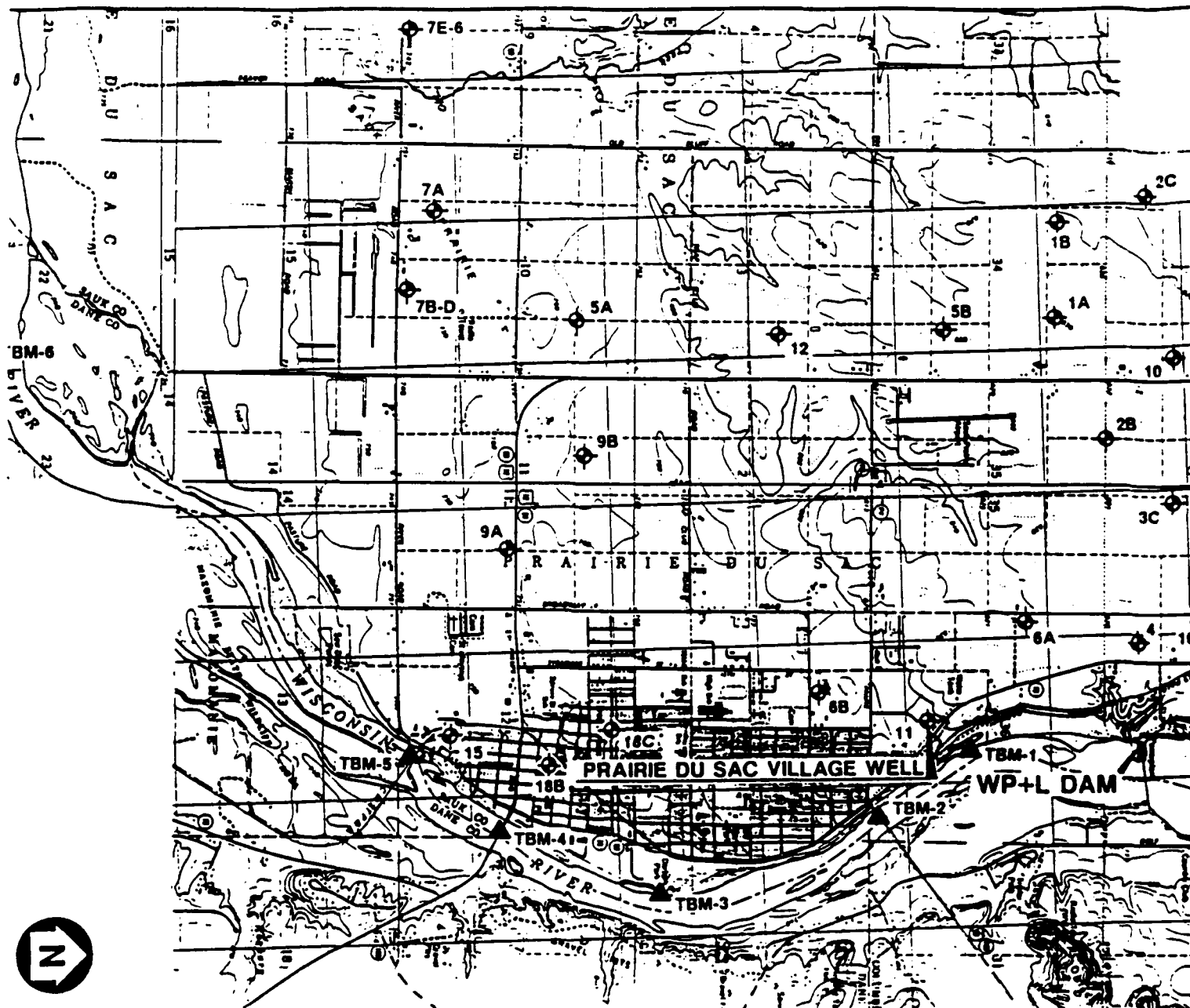
Note: 1. Water elevation in reservoir above dam ranged from 773.7 to 774.2 ft. MSL from 5-15-90 to 6-7-90. (data from WP&L personnel).
2. Measurements from TBM-1 and TBM-6 are less accurate than other benchmarks, therefore they are rounded to the nearest foot.
3. Open flood gates after 5-19-90 resulted in a 2 to 3 foot rise in water level in river below dam. Gates were closed prior to 6-7-90 river measurement. Groundwater elevations do not appear to be greatly affected by the elevations during the time when flood gates were open.
4. MSL is mean sea level.

TABLE III
OFF-POST IMPACTED
RESIDENTIAL WELLS
FEASIBILITY STUDY
BADGER ARMY AMMUNITION PLANT

Well Designation	Carbon Tetrachloride (ppb)	Chloroform (ppb)
A	80	9.9
B	15	2.2
C	12	1.7
D	ND	2.7
E	ND	2.4
F	ND	2.4
G	ND	2.3
H	ND	30

- Note: 1. All concentrations in parts per billion, ppb or ug/l.
2. Well locations are shown on Figure 3, except for well F. Well F. is located northeast of plume area and does not appear to be related to the Propellant Burning Ground plume.
3. E.C. Jordan has not been involved in sample collection or data QA/QC.
4. Laboratory detection limits:
carbon tetrachloride=0.3 ppb
chloroform=1.4 ppb
trichloroethylene=0.3 ppb
5. The trace level chloroform concentrations at wells D, G, and H may be related to chlorination of water supply system.
6. ND indicates no detectable concentration.

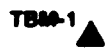
plb
6-15-80
offpowa3



LEGEND



APPROXIMATE LOCATION AND DESIGNATION OF WELLS USED IN HIGH CAPACITY WELL SURVEY. REFER TO TABLE 1 FOR WELL OWNER AND TYPE OF INSTALLATION.



APPROXIMATE LOCATION AND DESIGNATION OF TEMPORARY BENCHMARK ESTABLISHED ALONG THE WISCONSIN RIVER

NOTE:

1. OFF-POST WELL LOCATIONS ARE APPROXIMATE

SOURCE: USGS QUADRANGLES: SAUK CITY, BLACK EARTH, NORTH FREEDOM, AND SAUK PRAIRIE, 7.5 MINUTE SERIES.

APPROXIMATE SCALE IN FEET

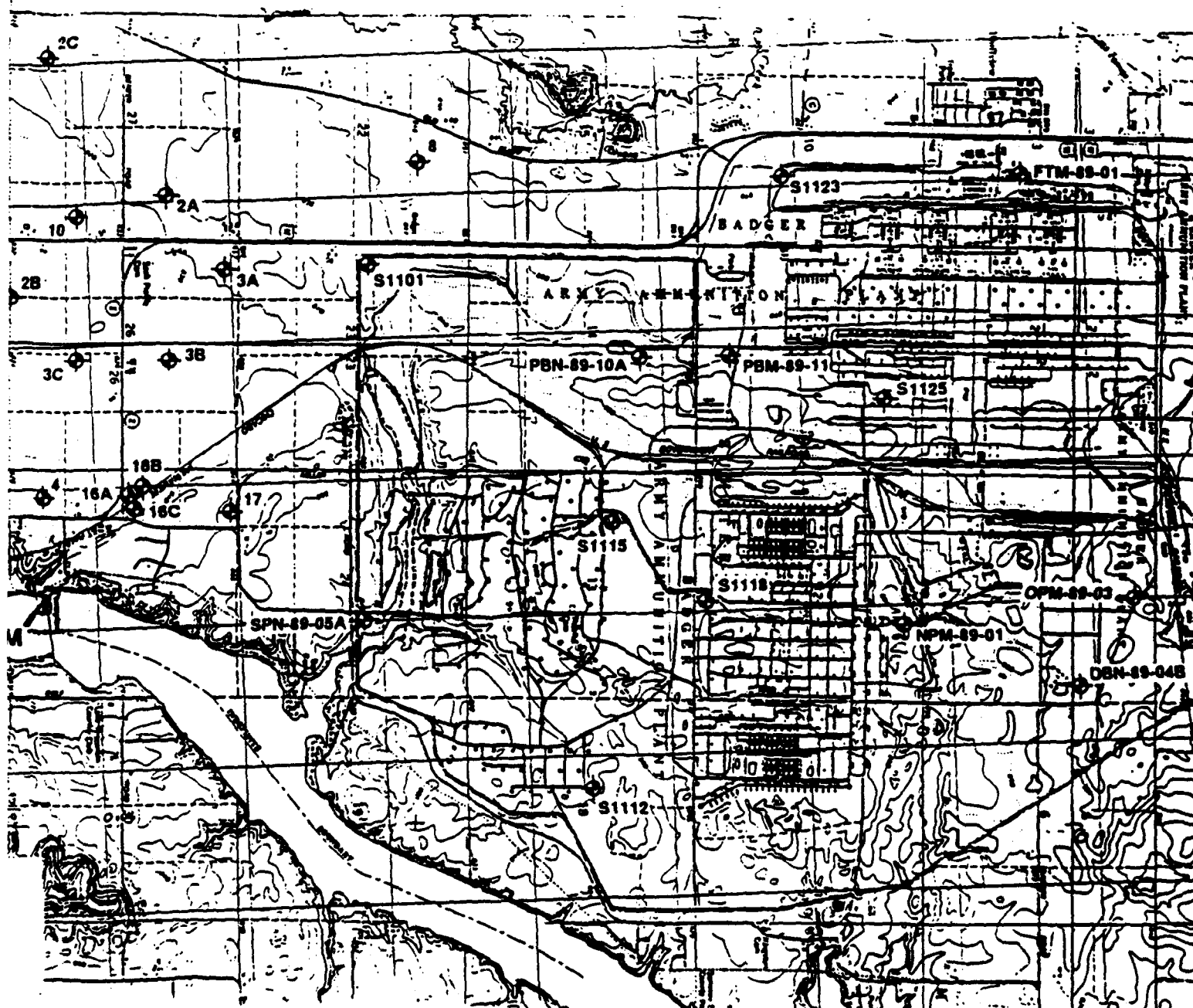
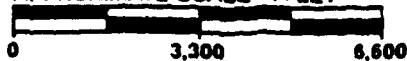
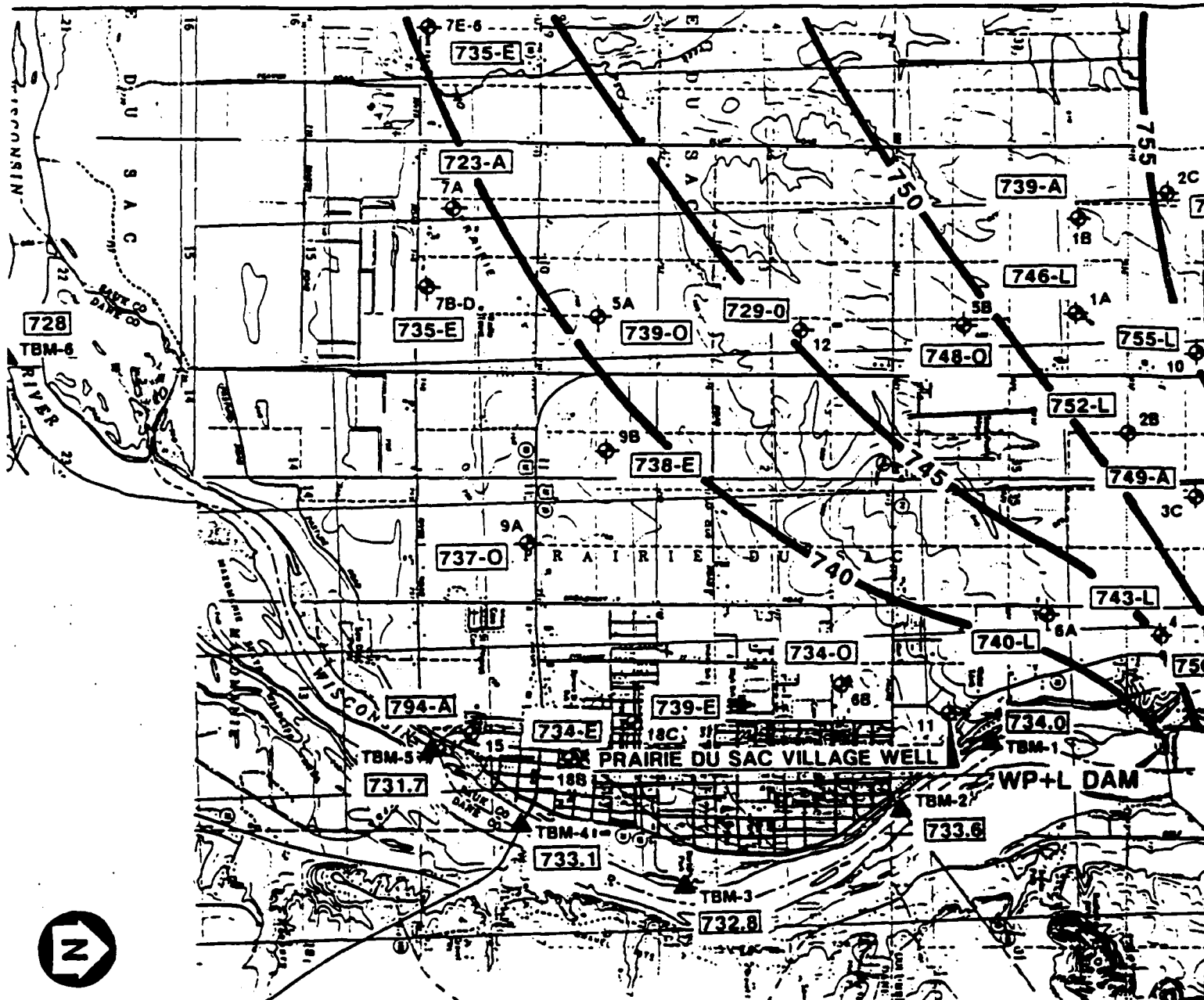


FIGURE 1
OFF-POST WELL LOCATION PLAN
BADGER ARMY AMMUNITION PLANT.

ECJORDANCO



LEGEND

- ◆ APPROXIMATE LOCATION DESIGNATION AND WATER LEVEL ELEVATION MEASURED IN WELL. SEE NOTE #1 FOR DESCRIPTION OF SUFFIX CODE.
- ▲ APPROXIMATE SURFACE WATER ELEVATION MEASURED ON WISCONSIN RIVER.
- WATER TABLE CONTOURS BASED UPON RESULTS OF GROUNDWATER MODEL FOR SITE REGION.

NOTES:

1. SUFFIX CODE FOR WELLS LOCATED OFF BAAP FACILITY INDICATE SOURCE OF WATER LEVEL.

A = AIR-LINE GAUGE	O = OWNER INFORMATION
E = ELECTRIC WATER LEVEL METER	L = WELL LOG DATA
2. WATER LEVELS ON BAAP FACILITY MEASURED TO NEAREST 0.1 FT. ALL OTHER WATER LEVEL MEASURED TO NEAREST FOOT.
3. WATER LEVELS MEASURED BETWEEN 5/15/90 AND 6/7/90.
4. WELL 15 WITH ELEVATION 794 REFLECTS ARTESIAN BEDROCK CONDITIONS.

SOURCE: USGS QUADRANGLES: SAUK CITY, BLACK EARTH, NORTH FREEDOM, AND SAUK PRAIRIE 7.5 MINUTE SERIES.

APPROXIMATE SCALE IN FEET

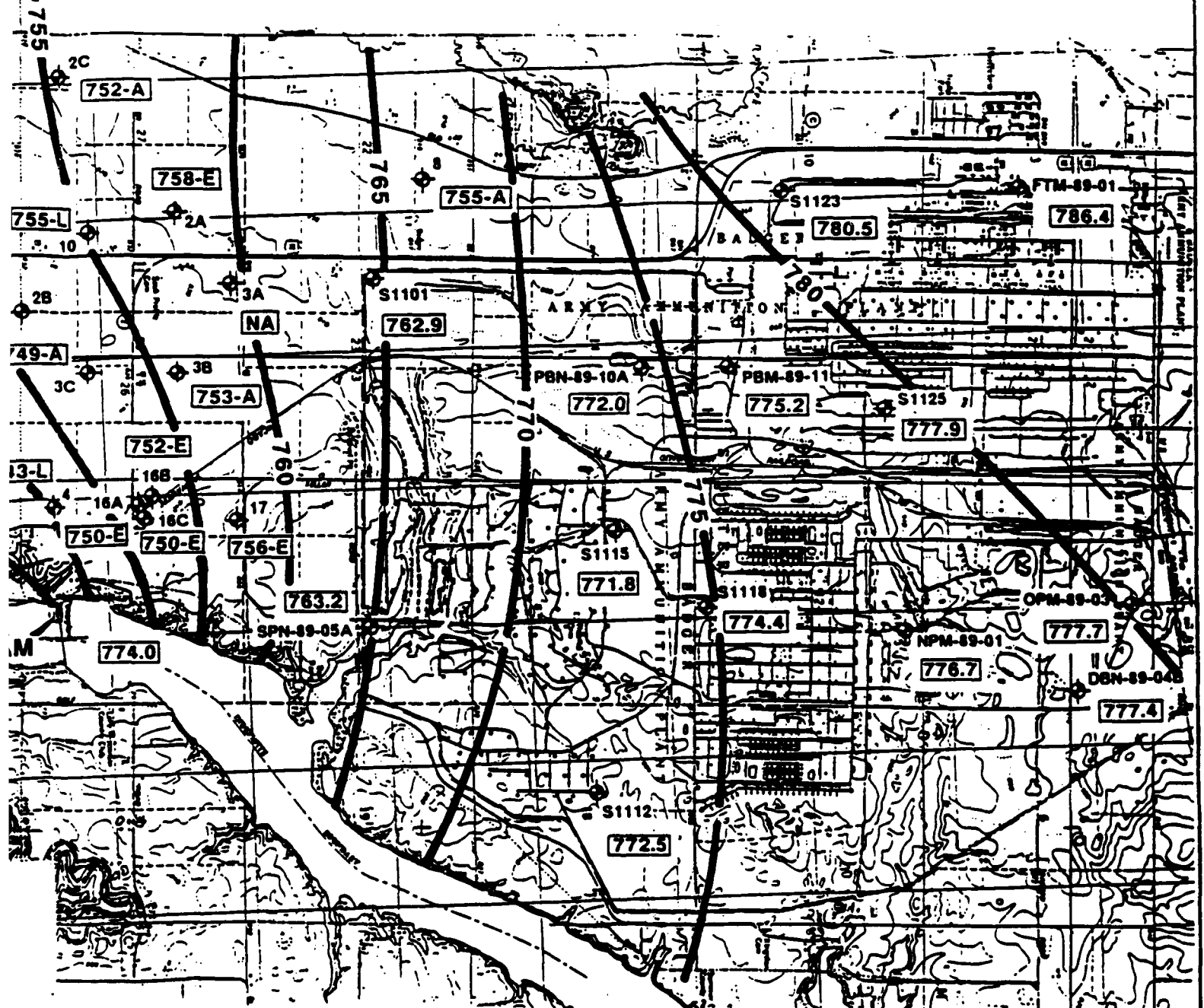
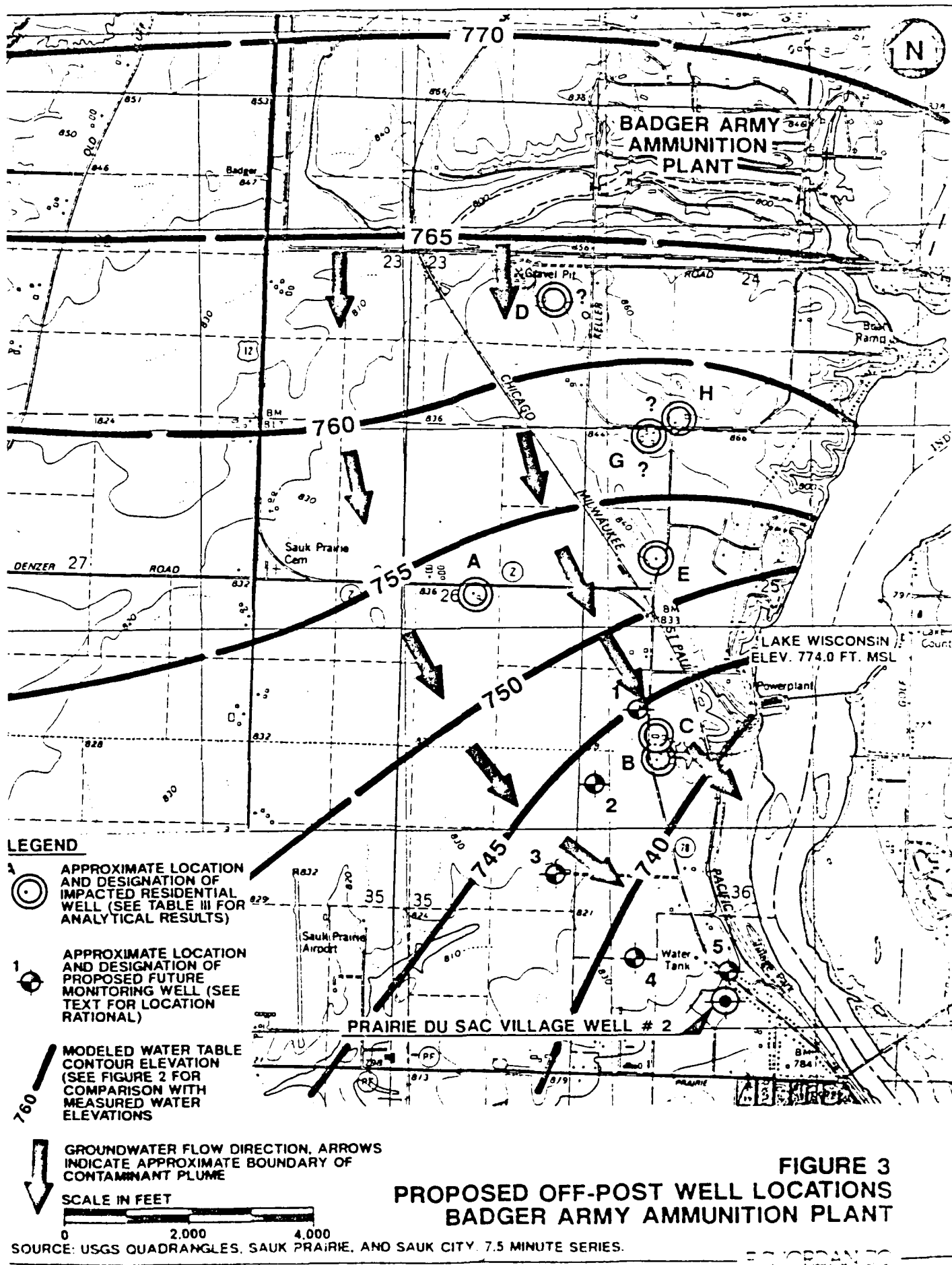


FIGURE 2
REGIONAL WATER TABLE CONTOUR PLAN
BADGER ARMY AMMUNITION PLANT

ECJORDAN CO



Appendix H.6
Production Well No. 4
Zone-of-Influence

PROJECT	COMP BY	JOB NO
BNAP, Zone of Influence of Well #4	JAE	5753-14
	CHK BY	DATE
	JAE	1/3/90

Determine likely zone-of-influence of 16184

f. Use pumping rate from specific capacity test (302 gpm)
This is approximately equal to the typical pumping rate of 13,000,000
-gallons per month

3 Well Radius = 3m or 0.25 ft

Assume $T = 120,000 \text{ GDD/ft}^2$ + $k = 960 \text{ GDD/ft}$, $b = 125 \text{ ft}$
(from specific capacity test data)

D from specific capacity test $352 \text{ gpm} \Rightarrow 604 \text{ gpm/ft} \therefore s = \frac{352}{604} = 0.58$

E. use Driscoll page 213^{*} to estimate Radius of Influence

$$Q = \frac{K(H^2 - h^2)}{1.055 \log R/r} \quad \text{then } R = r \log^{-1} \left[\frac{K(H^2 - h^2)}{1055 Q} \right]$$

$$= 0.25 \text{ ft} \ln \left[\frac{960 \frac{\text{gal}}{\text{ft}} ((125 \text{ ft})^2 - (120 \text{ ft})^2)}{1055 (302 \text{ gpm})} \right]$$

$$= 1,200 \text{ ft} \quad (435 \text{ wt/G} = 56 \text{ gpm} \cdot \text{ft} = 3 \text{ ft})^{-1}$$

if $b = 165 \text{ ft}$ and $k = 750 \text{ gpd/ft}$ then

$$R = 0.25 \text{ ft} \log^{-1} \left[\frac{750 \left[(165 \text{ ft})^2 - (160 \text{ ft})^2 \right]}{1055 (300 \text{ gpm})} \right]$$

$$= 1600 \text{ ft} \quad (50 \text{ ft w/} \sqrt{G} = 56 \text{ ppm} + 3 = 3 \text{ ft})$$

* Driscoll, F.S., 1986. "Groundwater and Wells"; Second Edition; Johnson Division Publishers, St. Paul, Minnesota.

PROJECT NAME L. for Zone of Influent Control ...

COMP BY ...
CHK BY ...

JOB NO ...
DATE ...

Detention Time ...

Assume ... $1/10$...

$$2 \times 10^{-1} + 2 \times 10^{-1} = 4 \times 10^{-1} = 0.4$$

$$T = 0.4 \times 110 = 44 \text{ sec}$$

Specific Capacity Test at BAAW Well #4

1. Specific Capacity = 60.4 gpm/ft

2. Rough estimate of $T = 60.4 \times 2000 = 120,000 \text{ GPD/ft}^2$

3. assuming $B = 785 - 660 \approx 125 \text{ ft}$

4. $K = T/B = 120,000 \text{ GPD/ft} / 125 \text{ ft} = 960 \text{ gpd/ft}^2$
 $= 4.5 \times 10^{-2} \text{ cm/sec}$

5. assume $B = 785 - 620 \approx 165$

6. $K = T/B = 120,000 \text{ GPD/ft} / 165 = 730 \text{ gpd/ft}^2$
 $= 3.4 \times 10^{-2} \text{ cm/sec}$

APPENDIX I
HYDRAULIC CONDUCTIVITY TEST RESULTS

APPENDIX I: HYDRAULIC CONDUCTIVITY TEST RESULTS

ABB-ES has completed a series of rising-head slug tests on 64 deep and shallow monitoring wells (53 new wells installed during the BAAP RI and 11 previously existing wells) at BAAP. The majority of the wells tested were located in the Propellant Burning Ground, Landfill 1, the Deterrent Burning Ground, Existing Landfill, Settling Ponds, Rocket Paste Area, Oleum Plant and Oleum Plant Pond, and off-post south of BAAP. Initially, four to five tests were performed at each well with water level depressions increasing from approximately one to 10 feet as the tests progressed. These numerous tests were completed at each well because of the rapid water level recovery rates, typically three to four minutes. However, as the testing proceeded and fairly consistent results were generated, the number of tests completed at each well was decreased to two to three. This appendix discusses the analytical procedure and presents estimated values of hydraulic conductivity. The test methodology is presented in each section.

Field data from all wells were analyzed to estimate aquifer hydraulic conductivity using the method of Hvorslev (1951).¹ This empirical method assumes an unconfined aquifer where hydraulic conductivity is related to the well geometry and the rate of water rise by:

$$K = \frac{d^2 \ln (2mL/D)}{8L + (t_2 - t_1)} \ln (H_1/H_2)$$

Parameters in this equation included: d (well diameter), D (the borehole diameter), L (the length of aquifer tested), m (the aquifer transformation ratio), as well as time (t) and water level (H) data. In the data presented below, Jordan has used a transformation ratio (m) of one.

The Hvorslev calculations for tests completed prior to 1991 were made using a computer-based technique that requires the user to input well data (d, D, L) and select water level (H) and time (t) from a plot of log H versus time.

¹Hvorslev, M.J., 1951. "Time Lag and Soil Permeability in Groundwater Observations;" U.S. Army Corps of Engineers, Waterways Experiment Station, Bulletin 36; Vicksburg, Mississippi.

APPENDIX I

Field data from tests performed during November and December of 1991 were analyzed using a derivation of the Hvorslev equation:

$$-K = \left[\frac{\text{Log } (H_1) - \text{Log } (H_2)}{t_1 - t_2} \right] \frac{r^2 \text{Log } (L/R)}{2(L)}$$

The H values were normalized to positive values in order to utilize this equation.

The 1991 data were also analyzed using AQTESOLV™², an aquifer test analysis program by Geraghty Miller, Inc. AQTESOLV™ utilizes the Bouwer and Rice method (1976)³ for determining hydraulic conductivities in unconfined aquifers.

The results of hydraulic conductivity testing at the 64 wells at BAAP are summarized in Table I-1. The results range from 2×10^{-1} to 1×10^{-4} cm/sec with a more typical range of 2×10^{-2} to 6×10^{-2} cm/sec. These values reflect the highly permeable conditions of the outwash aquifer underlying BAAP.

Analyses for each specific test are presented following Table I-1. The first sheet presents a semi-log plot of water level recovery at each well with the values selected for analyses being circled. The second sheet presents the well geometry and raw data; here the values selected for analyses are underlined. Following the recovery plots, well geometry and raw data are the Hvorslev calculations for the 1991 data and the AQTESOLV™ plots. All units are referenced to feet (length) and minutes (time). The static water level in each well was referenced to zero feet. Therefore, the water levels (head) during recovery are recorded as negative values.

²AQTESOLV, 1991 "AQTESOLV, Aquifer Test Solver Version 1.00;" Geraghty and Miller Modeling Group; Reston, VA.

³Bouwer, H. and R.C. Rice, 1976. A Slug Test Method for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells. Water Resources Research, Vol. 12, No. 3, pp 423-428.

TABLE I-1
FIELD HYDRAULIC CONDUCTIVITY TEST RESULTS

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL	TEST No.	MAXIMUM WATER LEVEL DEPRESSION (feet)	HYDRAULIC CONDUCTIVITY/ Hvorslev (cm/sec)
BGM-91-01	1	1.21	1.0×10^{-3}
S1123	1	6.7	1.0×10^{-4}
	2	1.5	1.0×10^{-4}
PBM-89-11	1	1.0	4.1×10^{-2}
	2	1.5	4.1×10^{-2}
PBN-82-03B	1	3.3	1.0×10^{-3}
	2	3.4	1.0×10^{-3}
PBN-82-03C	1	3.4	7.8×10^{-4}
	2	8.9	7.2×10^{-4}
	3	9.0	7.1×10^{-4}
PBN-89-01B	1	0.6	2.6×10^{-2}
	2	1.3	2.3×10^{-2}
	3	2.0	4.0×10^{-2}
	4	2.9	2.4×10^{-2}
	5	3.7	2.7×10^{-2}
PBN-89-01C	1	3.0	3.0×10^{-2}
	2	4.8	3.1×10^{-2}
	3	10.9	3.0×10^{-2}
PBN-89-01D	1	0.8	5.6×10^{-2}
	2	0.5	5.1×10^{-2}
	3	2.1	5.0×10^{-2}
	4	3.4	4.9×10^{-2}
	5	4.3	4.8×10^{-2}
PBN-89-02B	1	3.5	1.6×10^{-2}
	2	6.9	1.6×10^{-2}
	3	11.0	1.3×10^{-2}
PBN-89-02C	1	3.2	2.6×10^{-2}
	2	5.7	2.5×10^{-2}
	3	12.1	2.3×10^{-2}
PBN-89-03B	1	1.0	2.5×10^{-2}
	2	3.3	2.5×10^{-2}
	3	4.9	2.4×10^{-2}
	4	6.5	2.4×10^{-2}
	5	8.7	2.4×10^{-2}

TABLE I-1
FIELD HYDRAULIC CONDUCTIVITY TEST RESULTS

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL	TEST NO.	MAXIMUM WATER LEVEL DEPRESSION (feet)	HYDRAULIC CONDUCTIVITY/ Hvorslev (cm/sec)
PBN-89-03C	1	1.3	4.4×10^{-2}
	2	2.4	4.3×10^{-2}
	3	4.7	4.2×10^{-2}
	4	6.9	4.0×10^{-2}
	5	8.7	4.0×10^{-2}
PBN-89-04C	1	2.8	2.4×10^{-2}
	2	5.8	2.2×10^{-2}
	3	3.0	3.4×10^{-2}
PBN-89-10B	1	0.3	1.8×10^{-2}
	2	1.2	1.7×10^{-2}
	3	0.4	2.1×10^{-2}
	4	1.5	1.9×10^{-2}
	5	1.5	8.5×10^{-2}
PBN-89-10C	1	1.4	2.6×10^{-2}
	2	3.5	2.6×10^{-2}
	3	5.7	2.3×10^{-2}
	4	8.5	2.4×10^{-2}
PB-89-10D	1	0.2	1.9×10^{-2}
	2	0.2	1.5×10^{-2}
	3	6.7	1.6×10^{-2}
	4	10.7	5.0×10^{-2}
PBN-91-06C	1	7.3	1.6×10^{-2}
PBN-91-12C	1	2.0	7.0×10^{-3}
	2	4.8	8.0×10^{-3}
PBN-91-12D	1	3.4	1.7×10^{-2}
	2	6.0	4.8×10^{-2}
	3	10.3	2.6×10^{-2}
LOM-89-01	1	0.9	8.7×10^{-2}
	2	1.0	5.5×10^{-2}
	3	2.2	8.2×10^{-2}
LON-89-02B	1	0.7	5.1×10^{-2}
	2	1.5	5.4×10^{-2}
	3	2.4	4.5×10^{-2}
	4	3.5	4.0×10^{-2}
	5	5.0	3.8×10^{-2}

TABLE I-1
FIELD HYDRAULIC CONDUCTIVITY TEST RESULTS

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL	TEST NO.	MAXIMUM WATER LEVEL DEPRESSION (feet)	HYDRAULIC CONDUCTIVITY/ Hvorslev (cm/sec)
LON-89-03B	1	0.2	1.2×10^{-2}
	2	0.6	1.3×10^{-2}
	3	1.3	1.1×10^{-2}
	4	1.2	1.8×10^{-2}
	5	2.0	1.4×10^{-2}
SPN-89-01C	1	2.6	4.1×10^{-2}
	2	5.3	3.9×10^{-2}
	3	8.4	3.8×10^{-2}
SPN-89-02B	1	3.1	1.5×10^{-2}
	2	5.8	1.4×10^{-2}
	3	9.3	1.2×10^{-2}
SPN-89-02C	1	3.0	3.4×10^{-2}
	2	5.8	3.2×10^{-2}
	3	9.3	3.0×10^{-2}
SPN-89-03B	1	2.7	4.2×10^{-2}
	2	3.3	3.8×10^{-2}
	3	8.4	3.6×10^{-2}
SPN-89-03C	1	2.8	5.2×10^{-2}
	2	5.9	4.9×10^{-2}
	3	9.5	4.6×10^{-2}
SPN-89-04B	1	1.5	1.9×10^{-2}
	2	4.5	1.9×10^{-2}
	3	8.5	1.8×10^{-2}
SPN-89-04C	1	3.2	2.6×10^{-2}
	2	6.2	2.5×10^{-2}
	3	10.5	2.4×10^{-2}
S1103	1	2.4	7.6×10^{-3}
	2	3.0	7.5×10^{-3}
	3	3.4	7.5×10^{-3}
S1106	1	1.6	1.6×10^{-2}
	2	3.9	1.5×10^{-2}
	3	6.3	1.5×10^{-2}
	4	9.8	7.4×10^{-3}
S1107	1	1.5	3.6×10^{-2}
	2	5.5	3.5×10^{-2}
	3	8.6	3.4×10^{-2}

TABLE I-1
FIELD HYDRAULIC CONDUCTIVITY TEST RESULTS

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL	TEST NO.	MAXIMUM WATER LEVEL DEPRESSION (feet)	HYDRAULIC CONDUCTIVITY/ Hvorslev (cm/sec)
S1114	1	3.2	2.0×10^{-2}
	2	7.5	1.9×10^{-2}
DBM-82-01	1	0.1	1.1×10^{-1}
	2	1.0	5.7×10^{-1}
	3	1.9	2.0×10^{-1}
	4	2.9	6.6×10^{-1}
DBM-89-01	1	0.8	2.2×10^{-1}
	2	1.2	2.4×10^{-1}
	3	1.5	2.9×10^{-1}
DBM-89-03	1	0.3	1.2×10^{-1}
	2	0.5	2.0×10^{-1}
	3	0.9	1.3×10^{-1}
	4	0.8	2.0×10^{-1}
DBM-89-05	1	1.3	7.0×10^{-1}
	2	1.7	6.4×10^{-1}
	3	3.4	6.1×10^{-1}
	4	3.1	6.2×10^{-1}
DNB-89-02A	1	0.8	9.1×10^{-2}
	2	1.2	8.1×10^{-2}
	3	1.4	7.7×10^{-2}
DBN-89-02B	1	1.6	1.2×10^{-1}
	2	2.0	1.2×10^{-1}
	3	2.5	1.4×10^{-1}
	4	0.5	1.6×10^{-1}
DBN-89-04A	1	1.2	4.0×10^{-2}
	2	1.6	3.9×10^{-2}
	3	2.0	3.3×10^{-2}
DBN-89-04B	1	0.6	4.2×10^{-2}
	2	1.4	5.0×10^{-2}
	3	2.2	5.1×10^{-2}
ELM-89-01	1	1.5	8.0×10^{-1}
	2	2.6	8.3×10^{-1}
	3	3.6	8.2×10^{-1}
ELM-89-05	1	1.4	1.2×10^{-1}
	2	2.4	1.0×10^{-1}
	3	1.8	1.1×10^{-1}

TABLE I-1
FIELD HYDRAULIC CONDUCTIVITY TEST RESULTS

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

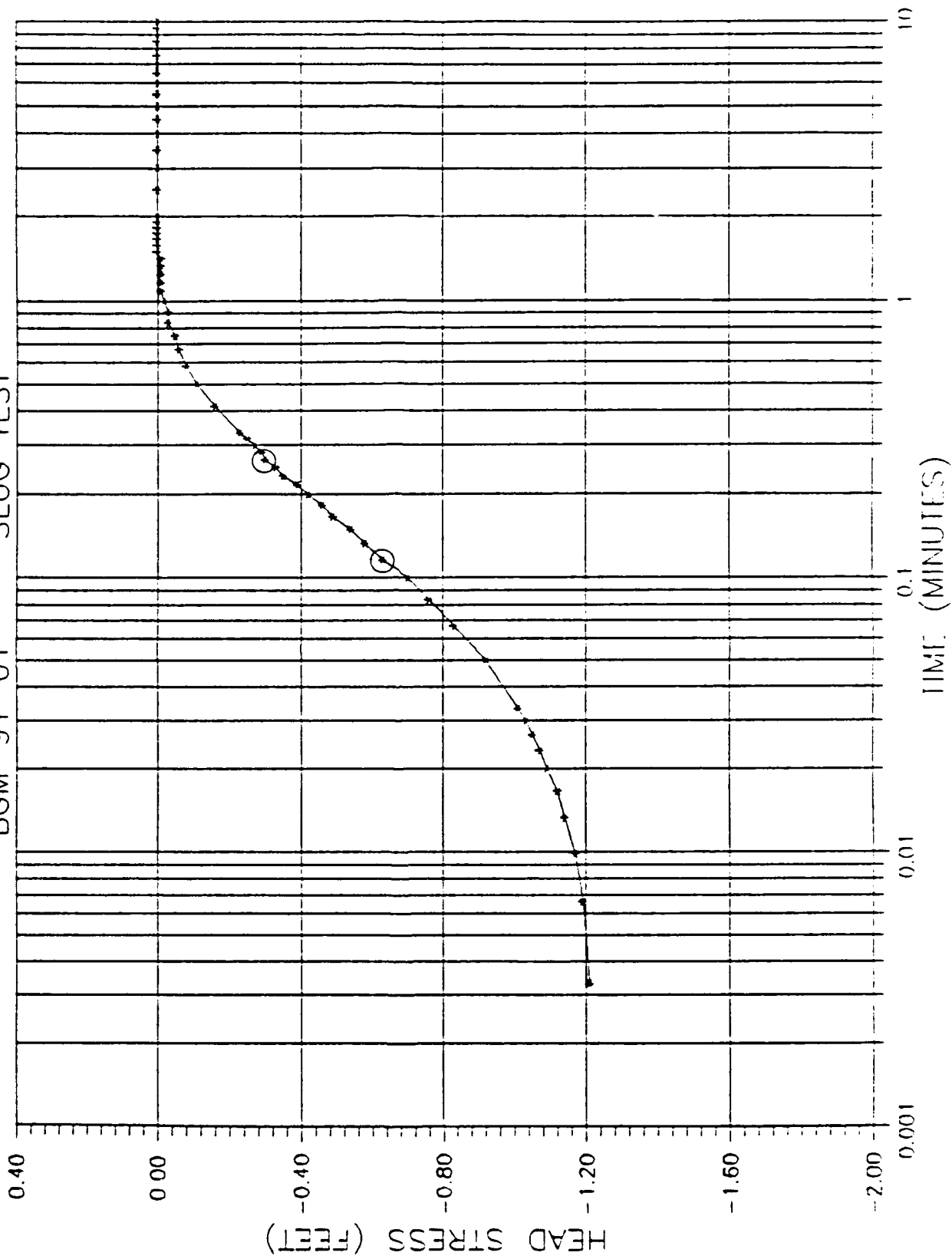
WELL	TEST NO.	MAXIMUM WATER LEVEL DEPRESSION (feet)	HYDRAULIC CONDUCTIVITY/ Hvorslev (cm/sec)
ELM-89-07	1	0.9	1.0×10^{-1}
	2	1.2	1.0×10^{-1}
ELM-89-08	1	1.2	4.4×10^{-2}
	2	2.0	4.1×10^{-2}
ELM-89-09	1	1.5	3.9×10^{-2}
	2	1.9	2.8×10^{-2}
	3	2.3	2.6×10^{-2}
ELM-91-10	1	1.5	2.0×10^{-3}
	2	1.2	2.0×10^{-3}
	3	1.0	2.0×10^{-3}
ELN-82-03C	1	1.7	9.0×10^{-3}
	2	5.1	6.1×10^{-3}
	3	3.8	6.7×10^{-3}
ELN-82-04A	1	0.8	3.6×10^{-4}
	2	1.0	4.3×10^{-4}
	3	1.1	3.3×10^{-4}
ELN-89-04A	1	1.7	3.7×10^{-2}
	2	2.4	3.5×10^{-2}
	3	2.2	3.6×10^{-2}
ELN-89-04B	1	0.5	4.6×10^{-2}
	2	2.0	2.8×10^{-2}
	3	1.0	8.8×10^{-2}
	4	7.0	1.1×10^{-1}
ELN-89-06B	1	2.6	5.6×10^{-2}
	2	5.2	5.2×10^{-2}
	3	8.0	5.0×10^{-2}
ELN-91-07A	1	1.2	5.0×10^{-3}
	2	1.7	5.0×10^{-3}
	3	1.8	5.0×10^{-3}
ELN-91-07B	1	5.6	1.5×10^{-2}
	2	6.3	1.5×10^{-2}
	3	6.4	1.4×10^{-2}
S1153	1	0.8	5.9×10^{-2}
	2	2.2	5.1×10^{-2}
	3	1.2	1.2×10^{-2}

TABLE I-1
FIELD HYDRAULIC CONDUCTIVITY TEST RESULTS

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL	TEST NO.	MAXIMUM WATER LEVEL DEPRESSION (feet)	HYDRAULIC CONDUCTIVITY/ Hvorslev (cm/sec)
RPM-89-01	1	0.5	1.5×10^{-1}
	2	0.7	1.9×10^{-1}
	3	1.3	1.9×10^{-1}
RPM-89-02	1	0.6	1.5×10^{-1}
	2	1.3	1.2×10^{-1}
	3	1.7	1.0×10^{-1}
OPM-89-03	1	0.6	8.2×10^{-2}
	2	0.9	1.1×10^{-1}
OAM-89-01	1	1.3	3.4×10^{-2}
	2	1.2	3.4×10^{-2}
	3	2.6	3.0×10^{-2}
	4	3.1	3.3×10^{-3}
FTM-89-01	1	2.3	2.2×10^{-2}
	2	3.6	2.2×10^{-2}
SWN-91-03B	1	2.0	3.3×10^{-2}
	2	5.8	1.9×10^{-2}
SWN-91-03C	1	5.6	1.4×10^{-2}
	2	8.0	2.2×10^{-2}
SWN-91-03D	1	2.8	2.3×10^{-2}
	2	4.9	1.0×10^{-2}
SWN-91-03E	1	2.9	1.0×10^{-3}
	2	6.0	1.0×10^{-3}
	3	7.8	1.0×10^{-3}

BGM-91-01 SLUG TEST



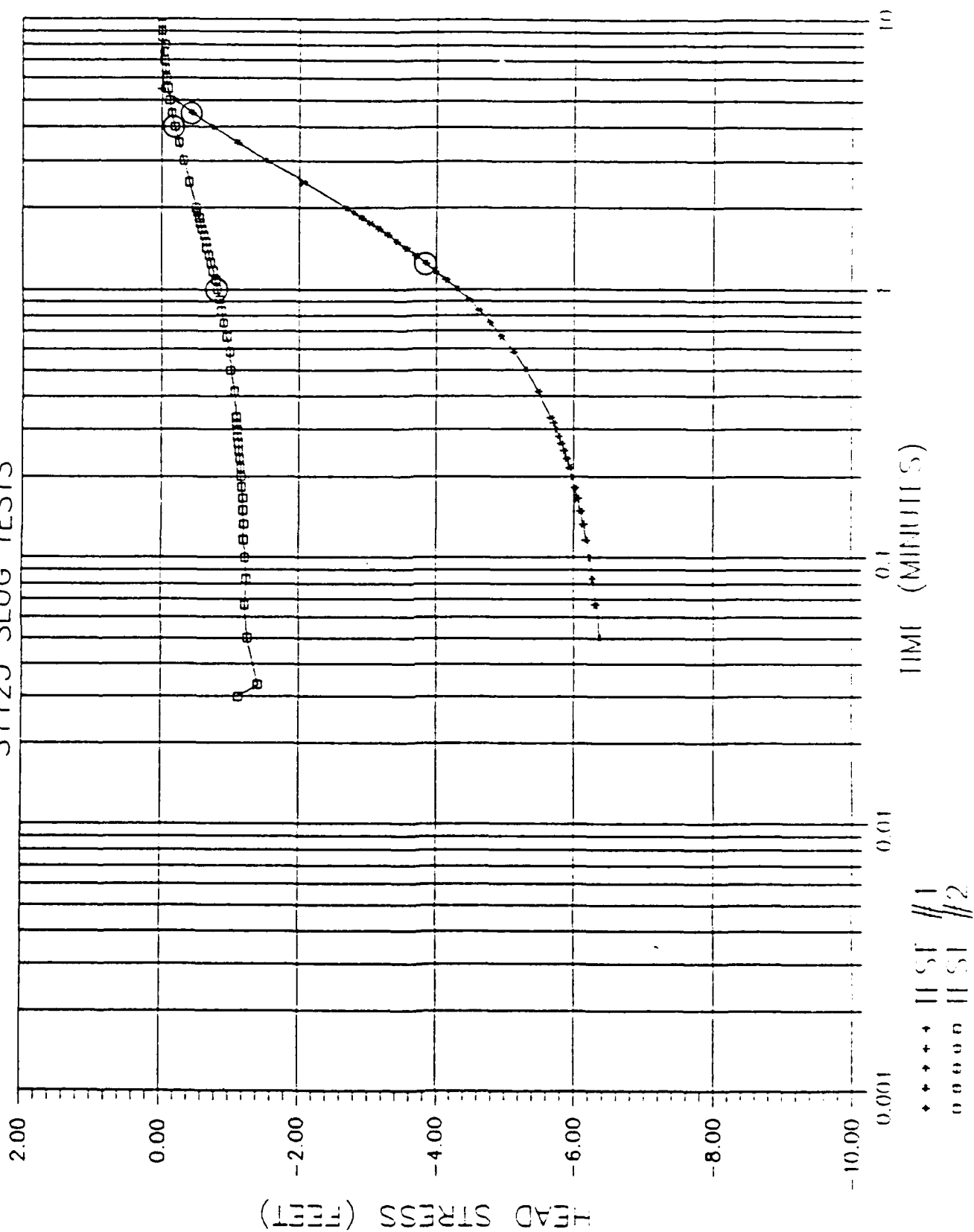
WELL BGM-91-01
WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1

MINUTES	FEET
0.0033	-1.21
0.0066	-1.19
0.0099	-1.17
0.0133	-1.14
0.0166	-1.12
0.02	-1.09
0.0233	-1.07
0.0266	-1.05
0.03	-1.03
0.0333	-1.01
0.06	-0.92
0.0666	-0.83
0.0833	-0.76
0.1	-0.7
0.1166	-0.63
0.1333	-0.58
0.15	-0.54
0.1666	-0.49
0.1833	-0.46
0.2	-0.42
0.2166	-0.39
0.2333	-0.35
0.25	-0.33
0.2666	-0.3
0.2833	-0.29
0.3	-0.27
0.3166	-0.25
0.3333	-0.23
0.4167	-0.18
0.5	-0.11
0.5833	-0.08
0.6667	-0.06
0.75	-0.05
0.8333	-0.03
0.9167	-0.03
1	-0.02
1.0833	-0.01
1.1667	-0.01
1.25	-0.01
1.3333	-0.01
1.4166	-0.01
1.5	0
1.5833	0
1.6667	0
1.75	0
1.8333	0
1.9167	0
2	0
2.5	0
3	0
3.5	0
4	0
4.5	0
5	0
5.5	0
6	0
6.5	0
7	0
7.5	0
8	0
8.5	0
9	0
9.5	0
10	0

HYDRAULEIC
K = 0.001 CM/SEC
BOUWER AND RICE
K = 0.006 CM/SEC

S1123 SLUG TESTS



WELL S1123
WELL DIAMETER=0.3125FT. SCREEN LENGTH=25FT. BORING DIAMETER=0.75FT

TEST 1		TEST 2	
MINUTES	FEET	MINUTES	FEET
0.0033	9.567	0.0033	4.54
0.0066	9.548	0.0066	4.54
0.01	9.536	0.01	4.537
0.0133	5.889	0.0133	4.534
0.0166	-0.096	0.0166	4.192
0.02	-4.178	0.02	0.99
0.0233	-8.652	0.0233	-1.118
0.0266	-6.39	0.0266	-1.482
0.03	-6.458	0.03	-1.128
0.0333	-6.431	0.0333	-1.412
0.05	-6.355	0.05	-1.291
0.0666	-6.311	0.0666	-1.232
0.0833	-6.29	0.0833	-1.251
0.1	-6.222	0.1	-1.232
0.1166	-6.178	0.1166	-1.21
0.1333	-6.133	0.1333	-1.207
0.15	-6.095	0.15	-1.194
0.1666	-6.051	0.1666	-1.194
0.1833	-6.013	0.1833	-1.181
0.2	-5.972	0.2	-1.169
0.2166	-5.937	0.2166	-1.162
0.2333	-5.893	0.2333	-1.15
0.25	-5.858	0.25	-1.137
0.2666	-5.814	0.2666	-1.134
0.2833	-5.785	0.2833	-1.118
0.3	-5.741	0.3	-1.118
0.3166	-5.709	0.3166	-1.108
0.3333	-5.668	0.3333	-1.108
0.4166	-6.481	0.4166	-1.068
0.5	-6.298	0.5	-1.014
0.5833	-5.124	0.5833	-1.004
0.6666	-4.94	0.6666	-0.954
0.75	-4.779	0.75	-0.912
0.8333	-4.614	0.8333	-0.878
0.9166	-4.488	0.9166	-0.852
1	-4.296	1	-0.818
1.0833	-4.138	1.0833	-0.796
1.1666	-3.981	1.1666	-0.757
1.25	-3.845	1.25	-0.728
1.3333	-3.693	1.3333	-0.7
1.4166	-3.567	1.4166	-0.686
1.5	-3.421	1.5	-0.656
1.5833	-3.295	1.5833	-0.631
1.6666	-3.162	1.6666	-0.596
1.75	-3.041	1.75	-0.574
1.8333	-2.921	1.8333	-0.555
1.9166	-2.807	1.9166	-0.526
2	-2.684	2	-0.504
2.5	-2.064	2.5	-0.403
3	-1.941	3	-0.321
3.5	-1.12	3.5	-0.257
4	-0.75	4	-0.197
4.5	-0.453	4.5	-0.153
5	-0.209	5	-0.118
5.5	0	5.5	-0.09
		6	-0.087
		6.5	-0.086
		7	-0.039
		7.5	-0.033
		8	-0.048
		8.5	-0.004
		9	-0.004
		9.5	-0.001

HYDRAULEX

K = 0.0001 CM/SEC

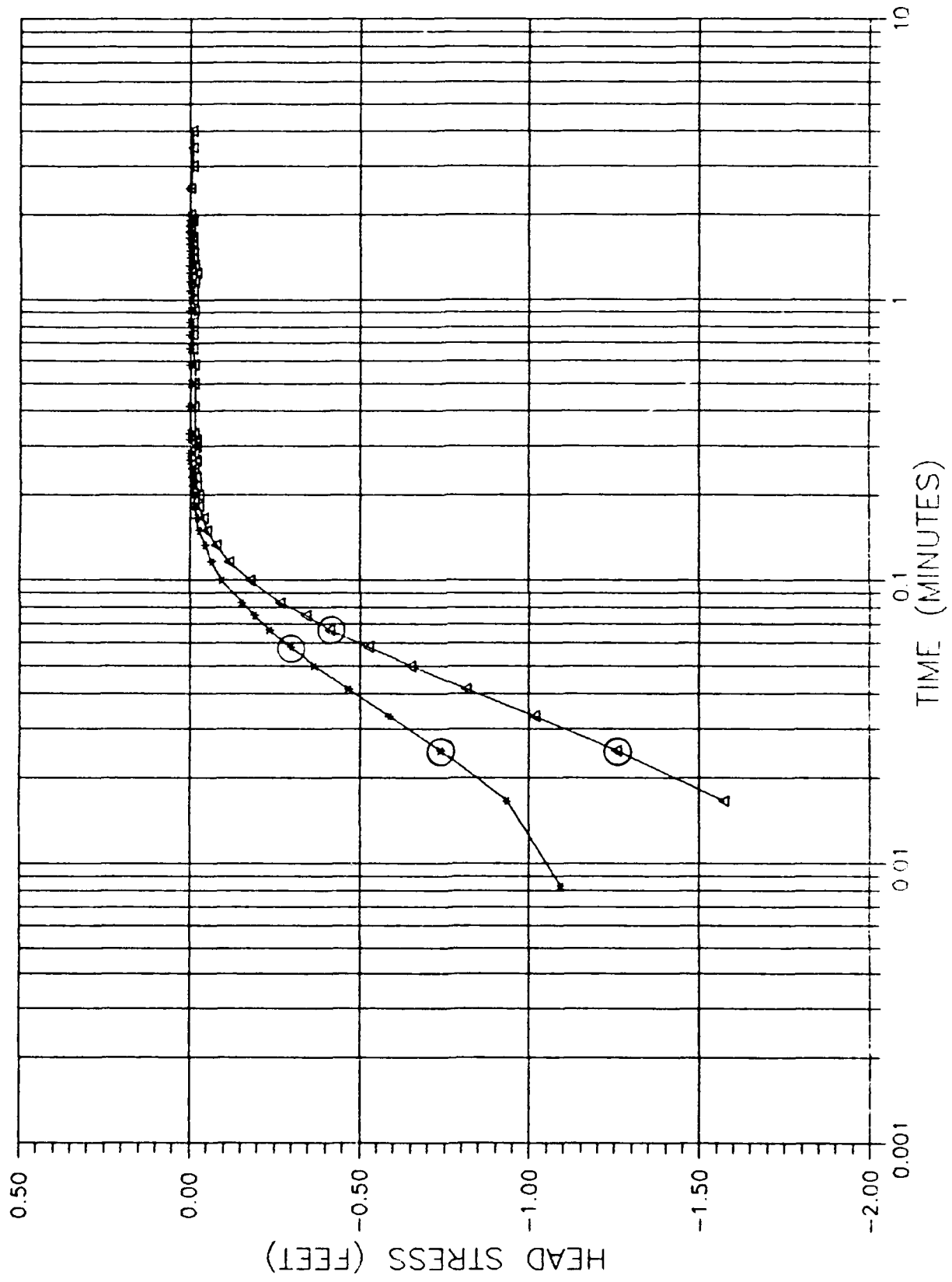
BOUWER AND RICE

K = UNABLE TO GENERATE K

K = 0.0001 CM/SEC

K = 0.0001 CM/SEC

PBM-89-11



●●●●● TEST NO. 1
▲▲▲▲▲ TEST NO. 2

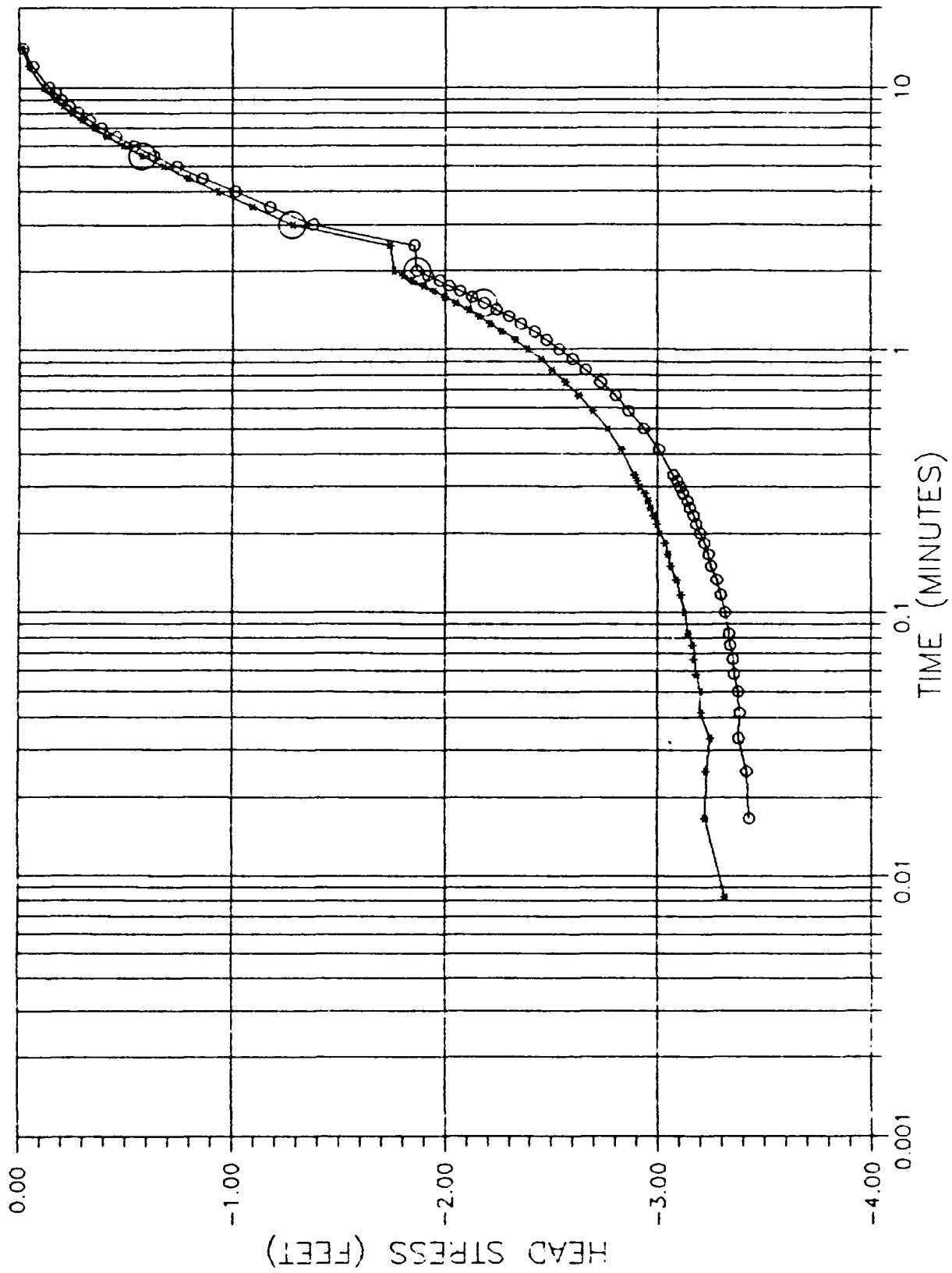
WELL PEM-69-11
WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2	
TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET
0.008	-1.092	0.017	-1.571
0.017	-0.934	0.025	-1.256
0.025	-0.738	0.033	-1.016
0.033	-0.587	0.042	-0.814
0.042	-0.467	0.050	-0.650
0.050	-0.366	0.058	-0.524
0.058	-0.297	0.067	-0.410
0.067	-0.234	0.075	-0.341
0.075	-0.190	0.083	-0.265
0.083	-0.152	0.100	-0.177
0.100	-0.095	0.117	-0.114
0.117	-0.064	0.133	-0.076
0.133	-0.045	0.150	-0.051
0.150	-0.026	0.167	-0.038
0.167	-0.019	0.183	-0.026
0.183	-0.013	0.217	-0.019
0.200	-0.007	0.250	-0.013
0.267	0.000	0.267	-0.019
0.283	0.000	0.283	-0.013
0.300	-0.007	0.300	-0.019
0.317	0.000	0.333	-0.013
0.333	0.000	0.667	-0.007
0.417	0.000	0.917	-0.013
0.500	0.000	1.000	-0.007
0.583	0.000	1.167	-0.013
0.667	0.000	1.250	-0.019
0.750	0.000	1.333	-0.013
0.833	0.000	1.417	-0.007
0.917	0.000	1.750	0.000
1.000	0.000	1.833	0.000
1.083	0.000	1.917	-0.007
1.167	0.000	2.000	0.000
1.250	0.000	2.500	0.000
1.333	0.000	3.000	-0.007
1.417	0.000		
1.500	0.000		
1.583	0.000		
1.667	0.000		
1.750	0.000		
1.833	0.000		
1.917	0.000		
2.000	0.000		
2.500	0.000		

K=4.1E-2 CM/SEC

K=4.1E-2 CM/SEC

PBN-82-03B

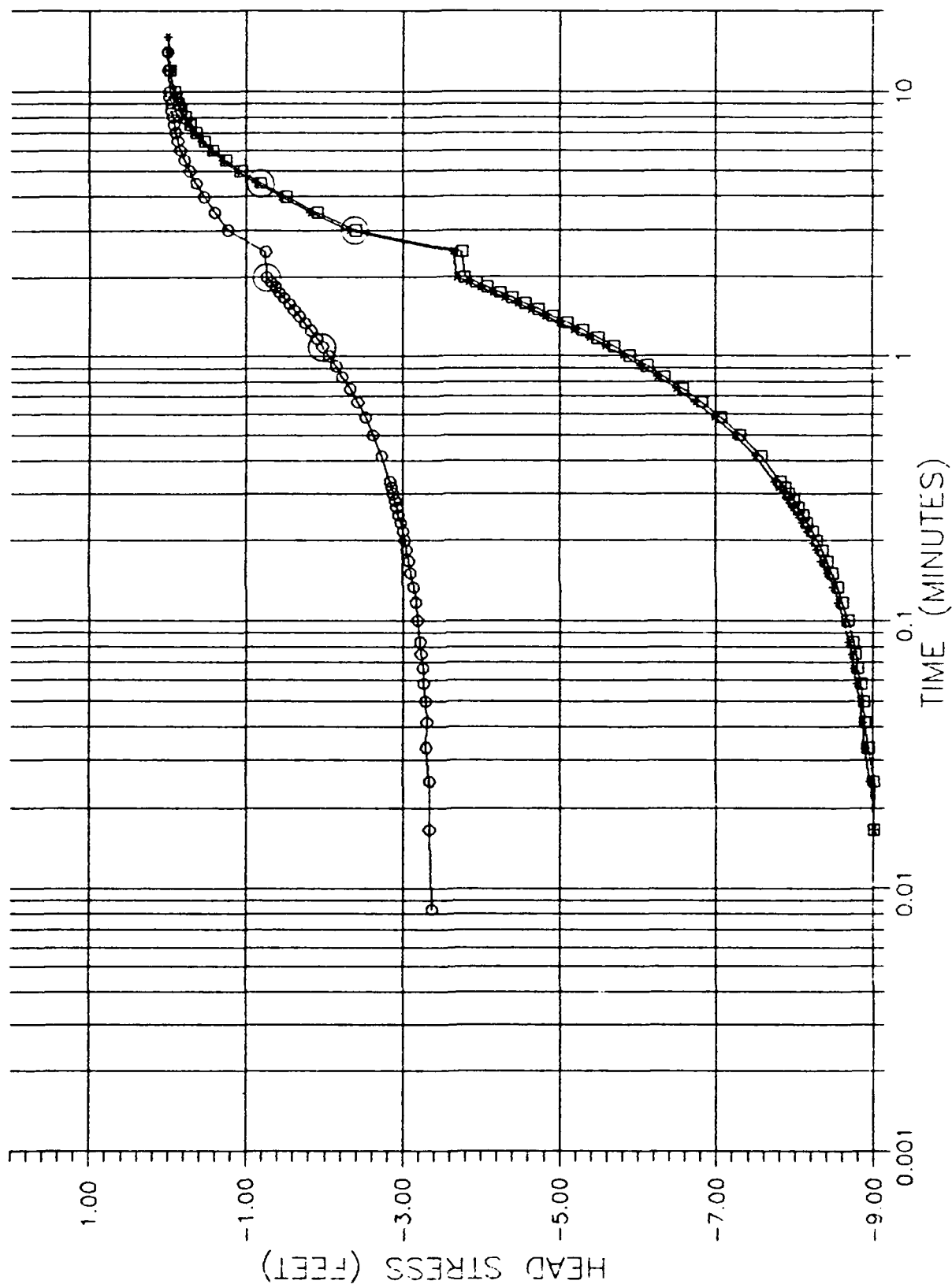


WELL PEN-81-005

WELL DIAMETER: 8.100 FT. SCREEN LENGTH: 25 FT. BOPING DIAMETER: 0.75 FT

TEST 1		TEST 1 CONT		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-3.314	1.083	-2.332	0.017	-3.422	1.083	-2.477
0.017	-3.219	1.167	-2.259	0.025	-3.415	1.167	-2.420
0.025	-3.225	1.250	-2.211	0.033	-3.377	1.250	-2.357
0.033	-3.244	1.333	-2.161	0.042	-3.384	1.333	-2.300
0.042	-3.200	1.417	-2.113	0.050	-3.377	1.417	-2.243
0.050	-3.181	1.500	-2.063	0.058	-3.353	1.500	-2.186
0.057	-3.166	1.583	-2.002	0.067	-3.352	1.583	-2.129
0.075	-3.163	1.667	-1.951	0.075	-3.339	1.667	-2.070
0.083	-3.143	1.750	-1.901	0.083	-3.333	1.750	-2.021
0.100	-3.124	1.833	-1.850	0.100	-3.314	1.833	-1.977
0.117	-3.115	1.917	-1.805	0.117	-3.295	1.917	-1.920
0.133	-3.086	2.000	-1.761	0.133	-3.276	2.000	-1.859
0.150	-3.061	2.500	-1.742	0.150	-3.251	2.500	-1.856
0.167	-3.049	3.000	-1.722	0.167	-3.233	3.000	-1.381
0.183	-3.035	3.500	-1.695	0.183	-3.219	3.500	-1.173
0.200	-3.010	4.000	-0.921	0.200	-3.200	4.000	-1.014
0.217	-2.997	4.500	-0.792	0.217	-3.181	4.500	-0.861
0.233	-2.978	5.000	-0.678	0.233	-3.168	5.000	-0.741
0.250	-2.965	5.500	-0.576	0.250	-3.149	5.500	-0.633
0.267	-2.953	6.000	-0.487	0.267	-3.137	6.000	-0.533
0.283	-2.940	6.500	-0.411	0.283	-3.119	6.500	-0.456
0.300	-2.915	7.000	-0.342	0.300	-3.105	7.000	-0.386
0.317	-2.902	7.500	-0.271	0.317	-3.092	7.500	-0.329
0.333	-2.883	8.000	-0.247	0.333	-3.073	8.000	-0.278
0.417	-2.826	8.500	-0.202	0.417	-3.004	8.500	-0.234
0.500	-2.763	9.000	-0.171	0.500	-2.934	9.000	-0.196
0.583	-2.693	9.500	-0.152	0.583	-2.864	9.500	-0.171
0.667	-2.630	10.000	-0.114	0.667	-2.801	10.000	-0.139
0.750	-2.566	12.000	-0.044	0.750	-2.731	12.000	-0.063
0.833	-2.503	14.000	-0.012	0.833	-2.661	14.000	-0.019
0.917	-2.452			0.917	-2.599		
1.000	-2.389	K=1.0E-3 CM/SEC		1.000	-2.535	K=1.0E-3 CM/SEC	

PBN-82-03C

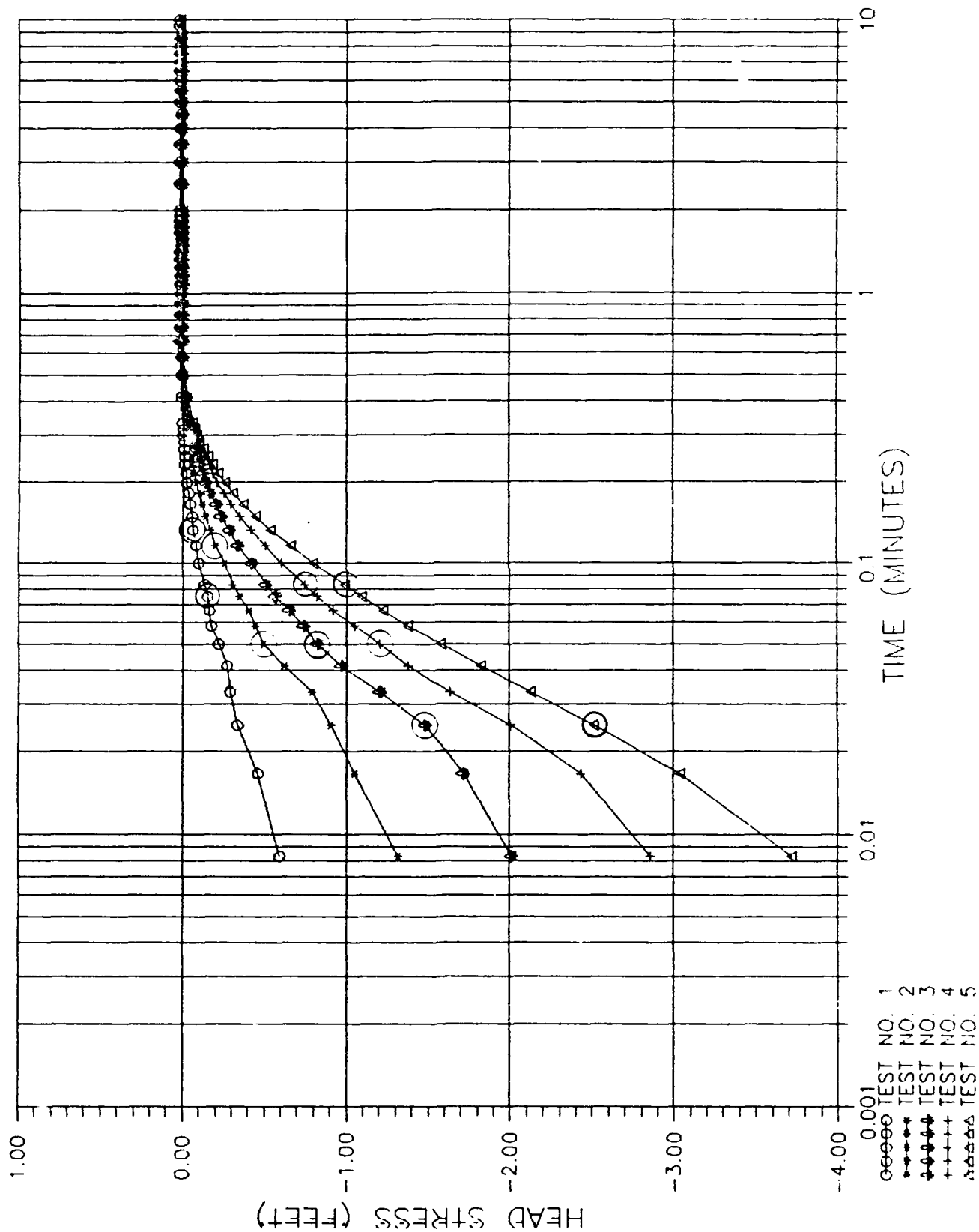


WELL DIAMETER - 10.00 FT. DIFFERENTIAL - 10.00 FT. BURNING DIAMETER - 10.00 FT.

TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN	FEET	MIN	FEET	MIN	FEET
0.000	-3.071	0.000	-3.071	0.000	-3.033
0.017	-3.039	0.033	-3.031	0.033	-3.036
0.033	-3.301	0.050	-3.334	0.042	-3.397
0.050	-3.293	0.058	-3.790	0.058	-3.847
0.058	-3.263	0.067	-3.752	0.067	-3.302
0.075	-3.232	0.083	-3.633	0.083	-3.745
0.083	-3.219	0.100	-3.619	0.100	-3.676
0.100	-3.187	0.117	-3.549	0.117	-3.606
0.117	-3.162	0.133	-3.435	0.133	-3.540
0.133	-3.137	0.150	-3.416	0.150	-3.473
0.150	-3.105	0.167	-3.352	0.167	-3.416
0.167	-3.086	0.183	-3.299	0.183	-3.359
0.183	-3.054	0.200	-3.219	0.200	-3.299
0.200	-3.029	0.217	-3.120	0.217	-3.232
0.217	-3.004	0.233	-3.099	0.233	-3.169
0.233	-2.978	0.250	-3.042	0.250	-3.112
0.250	-2.946	0.267	-7.935	0.267	-3.055
0.267	-2.927	0.283	-7.928	0.283	-7.998
0.283	-2.901	0.300	-7.871	0.300	-7.940
0.300	-2.877	0.317	-7.867	0.317	-7.883
0.317	-2.856	0.333	-7.750	0.333	-7.826
0.333	-2.933	0.417	-7.503	0.417	-7.573
0.417	-2.781	0.500	-7.231	0.500	-7.313
0.500	-2.617	0.583	-3.977	0.583	-7.060
0.583	-2.522	0.667	-6.724	0.667	-6.812
0.667	-2.420	0.750	-6.489	0.750	-6.572
0.750	-2.325	0.833	-6.255	0.833	-6.343
0.833	-2.230	0.917	-6.033	0.917	-6.122
0.917	-2.148	1.000	-5.811	1.000	-5.900
1.000	-2.059	1.083	-5.589	1.083	-5.697
1.083	-1.977	1.167	-5.386	1.167	-5.494
1.167	-1.901	1.250	-5.190	1.250	-5.298
1.250	-1.821	1.333	-5.000	1.333	-5.106
1.333	-1.755	1.417	-4.816	1.417	-4.917
1.417	-1.685	1.500	-4.639	1.500	-4.740
1.500	-1.609	1.583	-4.461	1.583	-4.569
1.583	-1.532	1.667	-4.296	1.667	-4.404
1.667	-1.482	1.750	-4.133	1.750	-4.246
1.750	-1.426	1.833	-3.986	1.833	-4.087
1.833	-1.375	1.917	-3.834	1.917	-3.941
1.917	-1.318	2.000	-3.683	2.000	-3.796
2.000	-1.251	2.500	-3.644	2.500	-3.753
2.500	-1.246	3.000	-2.306	3.000	-2.401
3.000	-0.756	3.500	-1.813	3.500	-1.937
3.500	-0.595	4.000	-1.439	4.000	-1.508
4.000	-0.458	4.500	-1.123	4.500	-1.185
4.500	-0.361	5.000	-0.867	5.000	-0.937
5.000	-0.278	5.500	-0.697	5.500	-0.741
5.500	-0.215	6.000	-0.581	6.000	-0.533
6.000	-0.158	6.500	-0.430	6.500	-0.438
6.500	-0.126	7.000	-0.335	7.000	-0.367
7.000	-0.101	7.500	-0.259	7.500	-0.291
7.500	-0.078	8.000	-0.202	8.000	-0.221
8.000	-0.062	8.500	-0.153	8.500	-0.171
8.500	-0.053	9.000	-0.095	9.000	-0.133
9.000	-0.047	10.000	-0.055	10.000	-0.082
10.000	-0.041	11.000	-0.025	11.000	-0.025

END OF TEST

PBN-89-01B

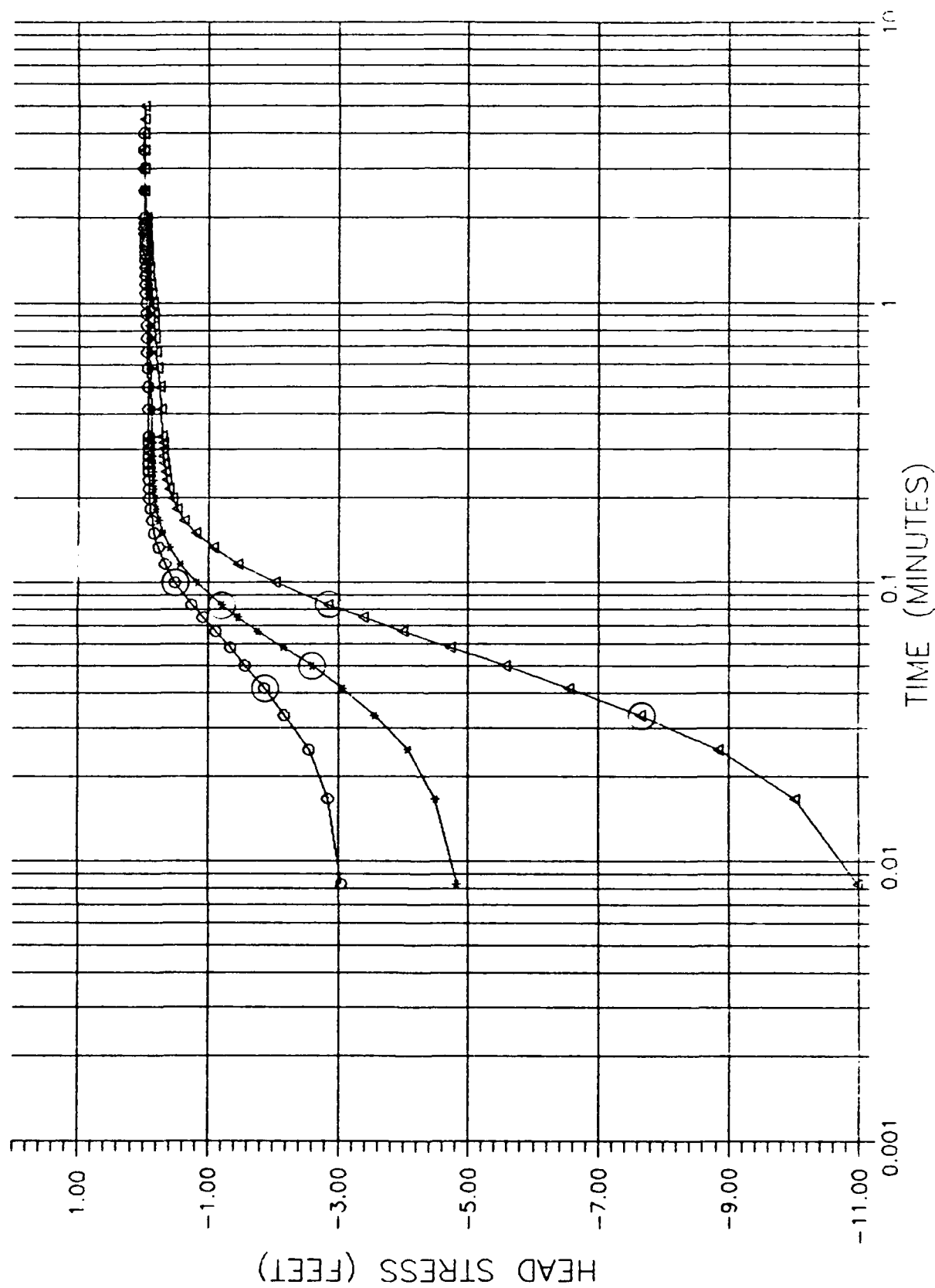


WELL PBN-99-018

WELL DIAMETER=0.3125FT, SCREEN LENGTH=10.5FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.600	0.008	-1.318	0.008	-2.009	0.008	-2.858	0.008	-3.723
0.017	-0.462	0.017	-1.052	0.017	-1.717	0.017	-2.433	0.017	-3.042
0.025	-0.335	0.025	-0.906	0.025	-1.452	0.025	-2.062	0.025	-2.509
0.033	-0.291	0.033	-0.792	0.033	-1.204	0.033	-1.635	0.033	-2.129
0.042	-0.272	0.042	-0.621	0.042	-0.969	0.042	-1.391	0.042	-1.625
0.050	-0.221	0.050	-0.494	0.050	-0.823	0.050	-1.204	0.050	-1.579
0.058	-0.177	0.058	-0.443	0.058	-0.741	0.058	-1.052	0.058	-1.375
0.067	-0.164	0.067	-0.405	0.067	-0.652	0.067	-0.918	0.067	-1.223
0.075	-0.152	0.075	-0.348	0.075	-0.564	0.075	-0.823	0.075	-1.096
0.083	-0.133	0.083	-0.304	0.083	-0.507	0.083	-0.747	0.083	-0.938
0.100	-0.101	0.100	-0.259	0.100	-0.424	0.100	-0.638	0.100	-0.798
0.117	-0.082	0.117	-0.202	0.117	-0.335	0.117	-0.507	0.117	-0.652
0.133	-0.063	0.133	-0.171	0.133	-0.285	0.133	-0.419	0.133	-0.538
0.150	-0.057	0.150	-0.139	0.150	-0.234	0.150	-0.348	0.150	-0.449
0.167	-0.044	0.167	-0.120	0.167	-0.202	0.167	-0.297	0.167	-0.373
0.183	-0.038	0.183	-0.101	0.183	-0.164	0.183	-0.253	0.183	-0.310
0.200	-0.025	0.200	-0.082	0.200	-0.139	0.200	-0.209	0.200	-0.259
0.217	-0.019	0.217	-0.059	0.217	-0.120	0.217	-0.183	0.217	-0.215
0.233	-0.012	0.233	-0.057	0.233	-0.101	0.233	-0.158	0.233	-0.163
0.267	-0.006	0.250	-0.050	0.250	-0.088	0.250	-0.133	0.250	-0.152
0.300	0.000	0.267	-0.044	0.267	-0.076	0.267	-0.114	0.267	-0.126
0.333	0.006	0.300	-0.031	0.283	-0.057	0.283	-0.101	0.283	-0.101
0.417	0.012	0.317	-0.025	0.317	-0.044	0.300	-0.082	0.300	-0.082
0.667	0.019	0.333	-0.019	0.333	-0.038	0.317	-0.059	0.317	-0.069
1.500	0.012	0.417	-0.006	0.417	-0.019	0.333	-0.063	0.333	-0.057
1.667	0.019	0.500	0.006	0.500	0.000	0.417	-0.031	0.417	-0.012
4.500	0.012	0.583	0.000	0.583	0.006	0.500	-0.012	0.500	0.012
5.000	0.019	0.667	0.012	1.000	0.012	0.583	0.000	0.583	0.025
5.500	0.012	0.750	0.000	1.083	0.006	0.750	0.006	0.667	0.038
6.000	0.019	0.833	0.012	1.833	0.012	0.833	0.000	0.750	0.019
6.500	0.012	0.917	0.006	1.917	0.006	0.917	0.006	1.750	0.012
9.500	0.019	1.000	0.000	5.500	0.012	1.083	0.000	1.833	0.019
K=2.6E-2 CM/SEC		1.083	0.006	6.500	0.006	1.167	0.006	2.500	0.012
		1.167	0.012	7.000	0.012	1.333	0.000	3.000	0.019
		1.250	0.019	K=4.0E-2 CM/SEC		1.417	0.006	3.500	0.012
		1.333	0.012			1.583	0.000	5.500	0.019
		1.583	0.000			1.667	0.006	6.000	0.012
		1.667	0.012			1.750	-0.006	6.500	0.019
		1.750	0.006			1.917	0.000	7.000	0.012
		3.000	0.012			4.000	-0.006	K=2.7E-2 CM/SEC	
		3.500	0.000			K=2.4E-2 CM/SEC			
		4.000	0.012						
		4.500	0.000						
		5.500	0.012						
		6.000	0.006						
		7.000	0.012						
		7.500	0.006						
		8.000	0.012						
		9.500	0.006						
		K=2.3E-2 CM/SEC							

PBN-890-1C



oooo TEST NO. 1
 ***** TEST NO. 2
 ^^^^^^ TEST NO. 3

WELL PBH-83-110
 WELL DIAMETER=2.8108FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.76FT

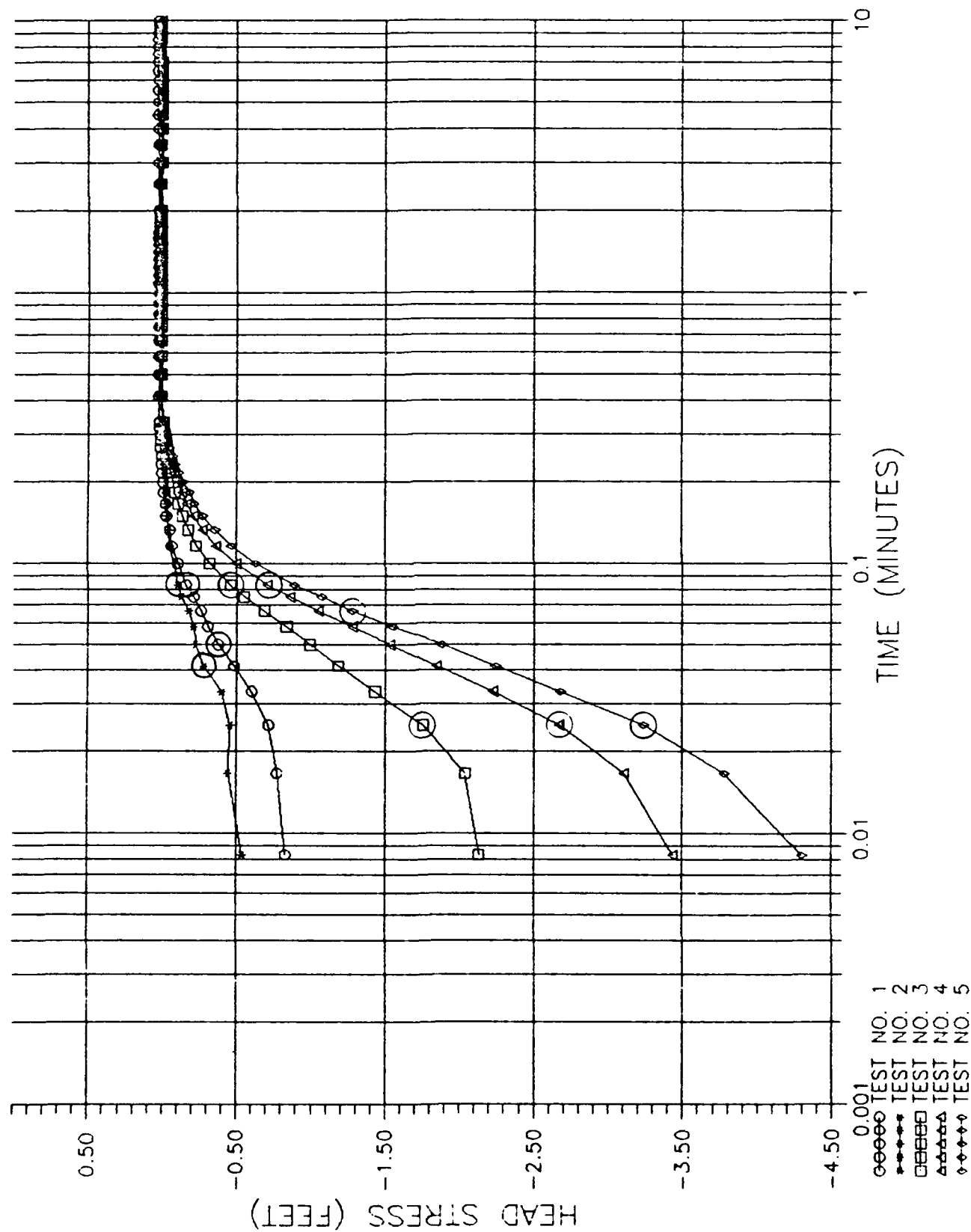
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-3.046	0.008	-4.824	0.008	-10.980
0.017	-2.844	0.017	-4.497	0.017	-10.022
0.025	-2.554	0.025	-4.074	0.025	-8.842
0.033	-2.169	0.033	-3.563	0.033	-7.650
0.042	-1.860	0.042	-3.071	0.042	-6.553
0.050	-1.564	0.050	-2.604	0.050	-5.575
0.058	-1.343	0.058	-2.157	0.058	-4.730
0.067	-1.122	0.067	-1.772	0.067	-4.005
0.075	-0.927	0.075	-1.463	0.075	-3.380
0.083	-0.744	0.083	-1.204	0.083	-2.851
0.100	-0.485	0.100	-0.826	0.100	-2.031
0.117	-0.334	0.117	-0.567	0.117	-1.457
0.133	-0.227	0.133	-0.397	0.133	-1.066
0.150	-0.157	0.150	-0.296	0.150	-0.801
0.167	-0.126	0.167	-0.233	0.167	-0.624
0.183	-0.100	0.183	-0.189	0.183	-0.511
0.200	-0.081	0.200	-0.170	0.200	-0.435
0.233	-0.075	0.217	-0.151	0.217	-0.384
0.250	-0.069	0.233	-0.138	0.233	-0.353
0.417	-0.063	0.267	-0.132	0.250	-0.328
0.500	-0.056	0.283	-0.126	0.267	-0.315
0.583	-0.050	0.333	-0.119	0.283	-0.302
0.667	-0.044	0.417	-0.113	0.300	-0.296
0.833	-0.037	0.500	-0.107	0.317	-0.290
0.917	-0.031	0.583	-0.094	0.333	-0.283
1.083	-0.025	0.667	-0.088	0.417	-0.258
1.250	-0.018	0.750	-0.081	0.500	-0.239
1.417	-0.012	0.833	-0.069	0.583	-0.214
1.750	-0.006	0.917	-0.063	0.667	-0.195
2.500	0.000	1.000	-0.056	0.750	-0.176
3.500	0.006	1.083	-0.050	0.833	-0.157
		1.167	-0.044	0.917	-0.145
		1.250	-0.037	1.000	-0.126
		1.417	-0.031	1.083	-0.113
		1.583	-0.025	1.167	-0.101
		1.750	-0.018	1.250	-0.088
		2.000	-0.012	1.333	-0.075
		2.500	-0.006	1.417	-0.069
		3.000	0.000	1.500	-0.063
				1.583	-0.056
				1.667	-0.050
				1.750	-0.044
				1.833	-0.038
				1.917	-0.031
				2.000	-0.050
				2.500	-0.006
				3.000	-0.006
				3.500	-0.006
				4.000	-0.006
				4.500	0.000
				5.000	0.000

K=3.0E-2 CM/SEC

K=3.1E-2 CM/SEC

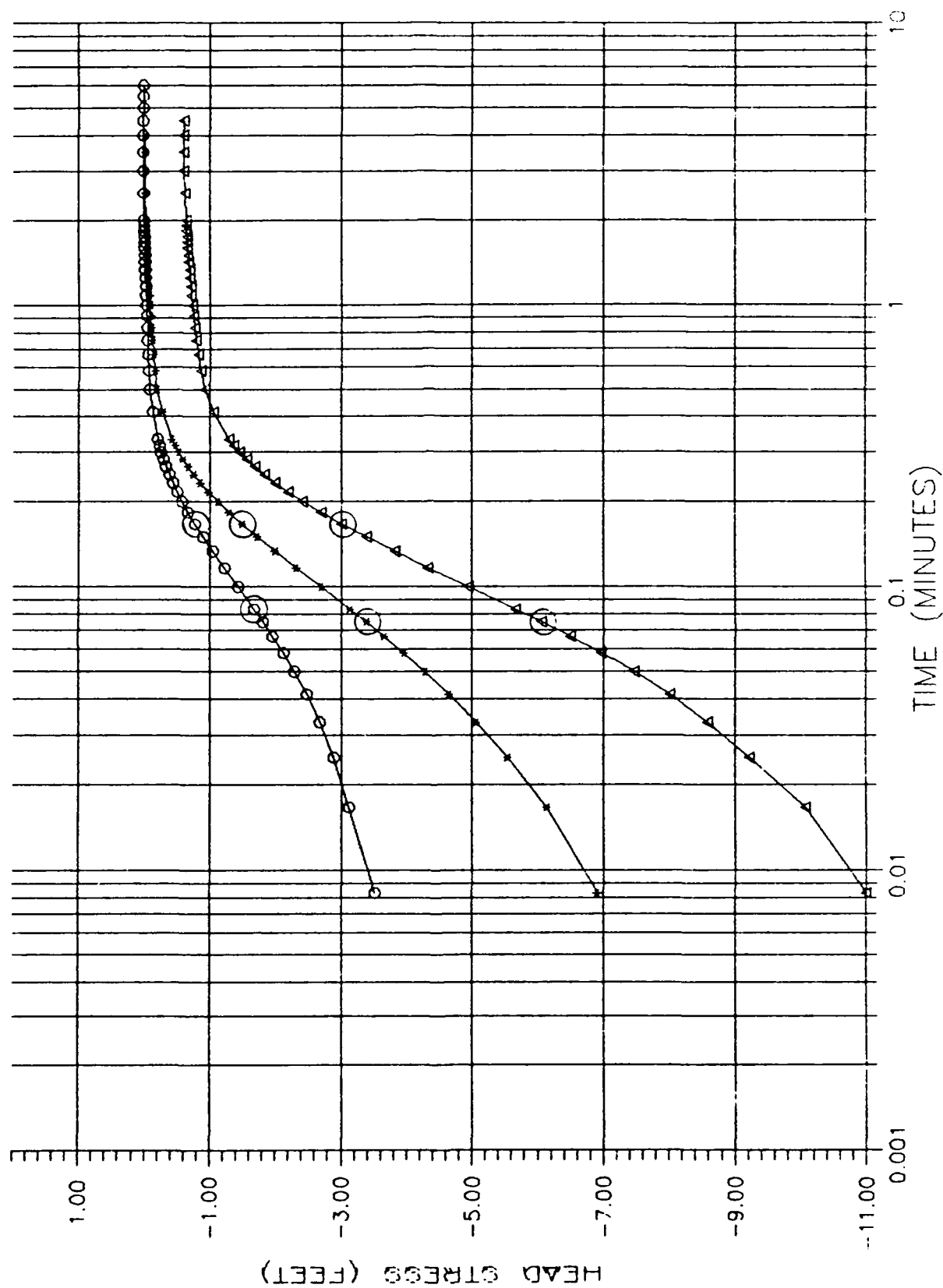
K=3.0E-2 CM/SEC

PBN-89-01D



WELL PEN-88-010									
WELL DIAMETER=0.2100FT		SCREEN LENGTH=8FT		BORING DIAMETER=0.2100FT		TEST		TEST	
TEST 1		TEST 1		TEST 2		TEST 4		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.930	0.008	-0.540	0.008	-2.135	0.008	-3.454	0.008	-4.303
0.017	-0.773	0.017	-0.443	0.017	-2.040	0.017	-3.135	0.017	-3.783
0.025	-0.716	0.025	-0.456	0.025	-1.755	0.025	-2.656	0.025	-3.238
0.033	-0.602	0.033	-0.399	0.033	-1.432	0.033	-2.224	0.033	-2.680
0.042	-0.491	0.042	-0.273	0.042	-1.185	0.042	-1.844	0.042	-2.243
0.050	-0.373	0.050	-0.221	0.050	-0.934	0.050	-1.533	0.050	-1.892
0.058	-0.304	0.058	-0.209	0.058	-0.836	0.058	-1.280	0.058	-1.552
0.067	-0.259	0.067	-0.177	0.067	-0.694	0.067	-1.052	0.067	-1.280
0.075	-0.209	0.075	-0.126	0.075	-0.551	0.075	-0.851	0.075	-1.071
0.083	-0.153	0.083	-0.101	0.083	-0.456	0.083	-0.709	0.083	-0.887
0.100	-0.107	0.100	-0.082	0.100	-0.323	0.100	-0.500	0.100	-0.603
0.117	-0.063	0.117	-0.050	0.117	-0.228	0.117	-0.361	0.117	-0.468
0.133	-0.050	0.133	-0.044	0.133	-0.177	0.133	-0.272	0.133	-0.354
0.150	-0.025	0.150	-0.031	0.150	-0.133	0.150	-0.209	0.150	-0.272
0.167	-0.019	0.167	-0.025	0.167	-0.107	0.167	-0.164	0.167	-0.215
0.183	-0.006	0.183	-0.019	0.183	-0.092	0.183	-0.133	0.183	-0.183
0.200	0.000	0.200	-0.012	0.200	-0.069	0.200	-0.101	0.200	-0.133
0.217	0.006	0.233	-0.006	0.217	-0.050	0.217	-0.082	0.217	-0.107
0.233	0.012	0.283	0.000	0.233	-0.044	0.233	-0.053	0.233	-0.082
0.267	0.019	0.417	0.006	0.250	-0.021	0.250	-0.044	0.250	-0.066
0.317	0.025	0.667	0.000	0.267	-0.025	0.267	-0.031	0.267	-0.044
0.417	0.031	0.750	0.006	0.283	-0.019	0.283	-0.025	0.283	-0.031
1.750	0.025	1.167	0.000	0.300	-0.012	0.300	-0.012	0.300	-0.025
2.000	0.031	1.250	0.006	0.317	-0.036	0.317	-0.006	0.317	-0.006
2.500	0.025	1.667	0.000	0.417	0.006	0.333	0.000	0.333	0.000
4.500	0.031	1.750	0.006	0.583	0.012	0.417	0.012	0.417	0.019
5.000	0.025	1.833	0.000	1.167	0.006	0.500	0.019	0.500	0.025
5.500	0.031	1.917	0.006	3.000	0.000	0.583	0.025	0.583	0.031
6.000	0.025	3.500	0.000	3.500	0.006	1.000	0.019	1.000	0.025
6.500	0.031			4.000	0.000	1.417	0.012	1.417	0.031
9.500	0.025	K=5.1E-2 CM/SEC				3.500	0.006	1.500	0.019
				K=5.0E-2 CM/SEC		4.500	0.012	3.000	0.012
						5.000	0.006	3.500	0.006
						6.000	0.012	4.500	0.019
						8.500	0.006	5.000	0.012
						K=4.9E-2 CM/SEC		K=4.8E-2 CM/SEC	

PBN-89-02B



○○○○ TEST NO. 1
 ***** TEST NO. 2
 ▲▲▲▲ TEST NO. 3

WELL PEN-89-025
WELL DIAMETER=0.3125FT, SCREEN LENGTH=12FT, BORING DIAMETER=0.75FT

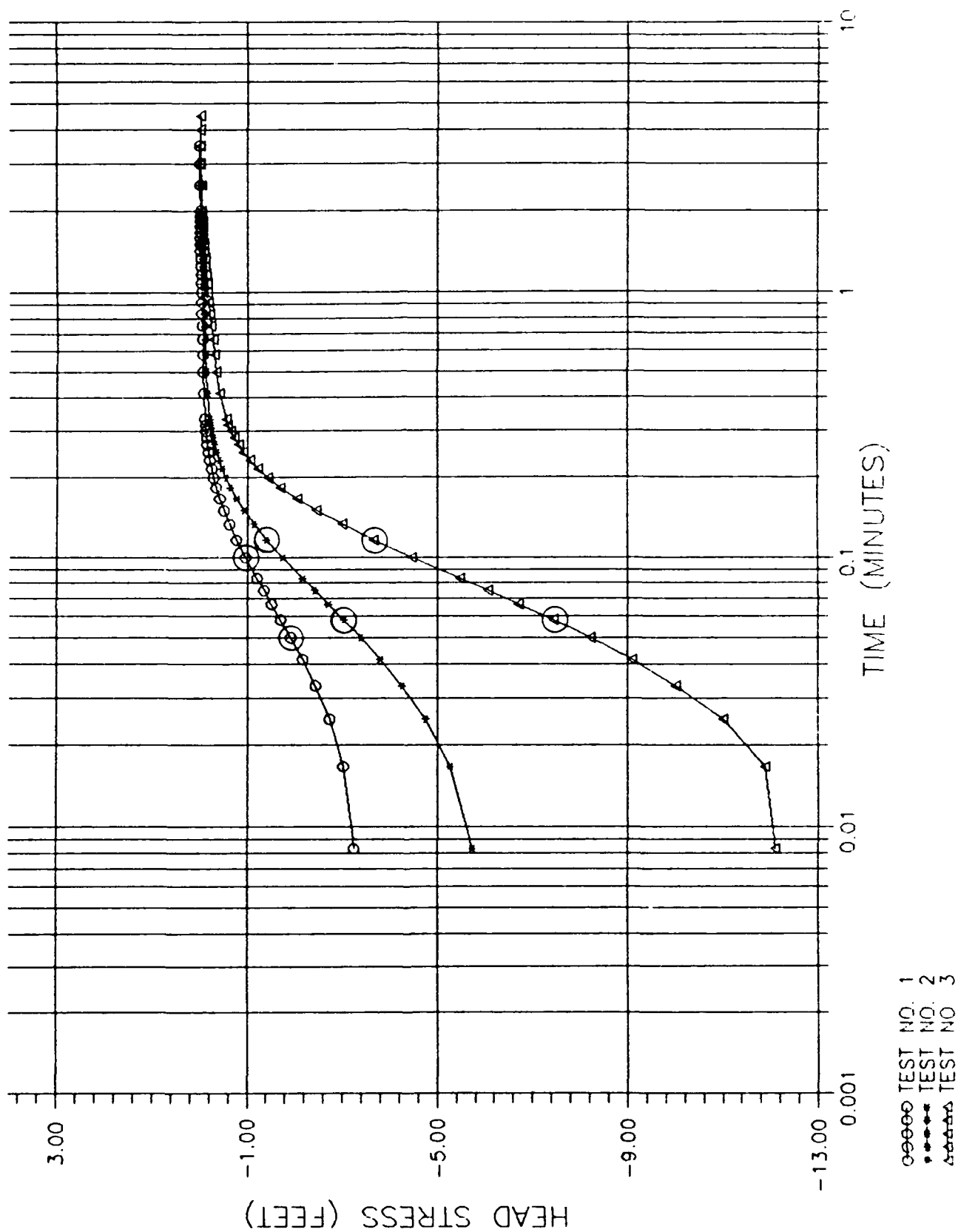
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-3.519	0.008	-6.906	0.008	-10.999
0.017	-3.122	0.017	-6.136	0.017	-10.072
0.025	-2.888	0.025	-5.537	0.025	-9.233
0.033	-2.674	0.033	-5.064	0.033	-8.590
0.042	-2.478	0.042	-4.648	0.042	-8.016
0.050	-2.289	0.050	-4.282	0.050	-7.473
0.058	-2.125	0.058	-3.954	0.058	-6.969
0.067	-1.961	0.067	-3.658	0.067	-6.502
0.075	-1.810	0.075	-3.386	0.075	-6.061
0.083	-1.677	0.083	-3.134	0.083	-5.657
0.100	-1.431	0.100	-2.693	0.100	-4.938
0.117	-1.223	0.117	-2.314	0.117	-4.333
0.133	-1.046	0.133	-1.993	0.133	-3.822
0.150	-0.895	0.150	-1.715	0.150	-3.380
0.167	-0.769	0.167	-1.488	0.167	-3.014
0.183	-0.662	0.183	-1.286	0.183	-2.693
0.200	-0.573	0.200	-1.122	0.200	-2.421
0.217	-0.498	0.217	-0.977	0.217	-2.194
0.233	-0.435	0.233	-0.851	0.233	-1.999
0.250	-0.378	0.250	-0.750	0.250	-1.829
0.267	-0.327	0.267	-0.662	0.267	-1.684
0.283	-0.290	0.283	-0.586	0.283	-1.564
0.300	-0.252	0.300	-0.523	0.300	-1.456
0.317	-0.227	0.317	-0.466	0.317	-1.368
0.333	-0.201	0.333	-0.416	0.333	-1.292
0.417	-0.126	0.417	-0.277	0.417	-1.059
0.500	-0.081	0.500	-0.195	0.500	-0.927
0.583	-0.063	0.583	-0.157	0.583	-0.857
0.667	-0.050	0.667	-0.132	0.667	-0.819
0.750	-0.037	0.750	-0.113	0.750	-0.788
0.917	-0.031	0.833	-0.100	0.833	-0.769
1.000	-0.025	0.917	-0.088	0.917	-0.750
1.083	-0.018	1.000	-0.081	1.000	-0.731
1.250	-0.012	1.083	-0.075	1.083	-0.719
1.333	-0.006	1.167	-0.063	1.167	-0.706
1.583	0.000	1.250	-0.056	1.250	-0.693
1.833	0.006	1.333	-0.050	1.333	-0.687
2.500	0.012	1.417	-0.044	1.417	-0.674
3.000	0.018	1.500	-0.037	1.500	-0.668
4.500	0.025	1.667	-0.031	1.583	-0.662
5.000	0.018	1.833	-0.025	1.667	-0.655
		2.500	-0.012	1.750	-0.649
		3.000	-0.006	1.833	-0.643
				2.000	-0.637
				2.500	-0.618
				3.000	-0.611
				3.500	-0.605

K=1.6E-2 CM/SEC

K=1.6E-2 CM/SEC

K=1.3E-2 CM/SEC

PBN-89-02C



WELL PBN 89-02C

WELL DIAMETER=0.3125FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.75FT

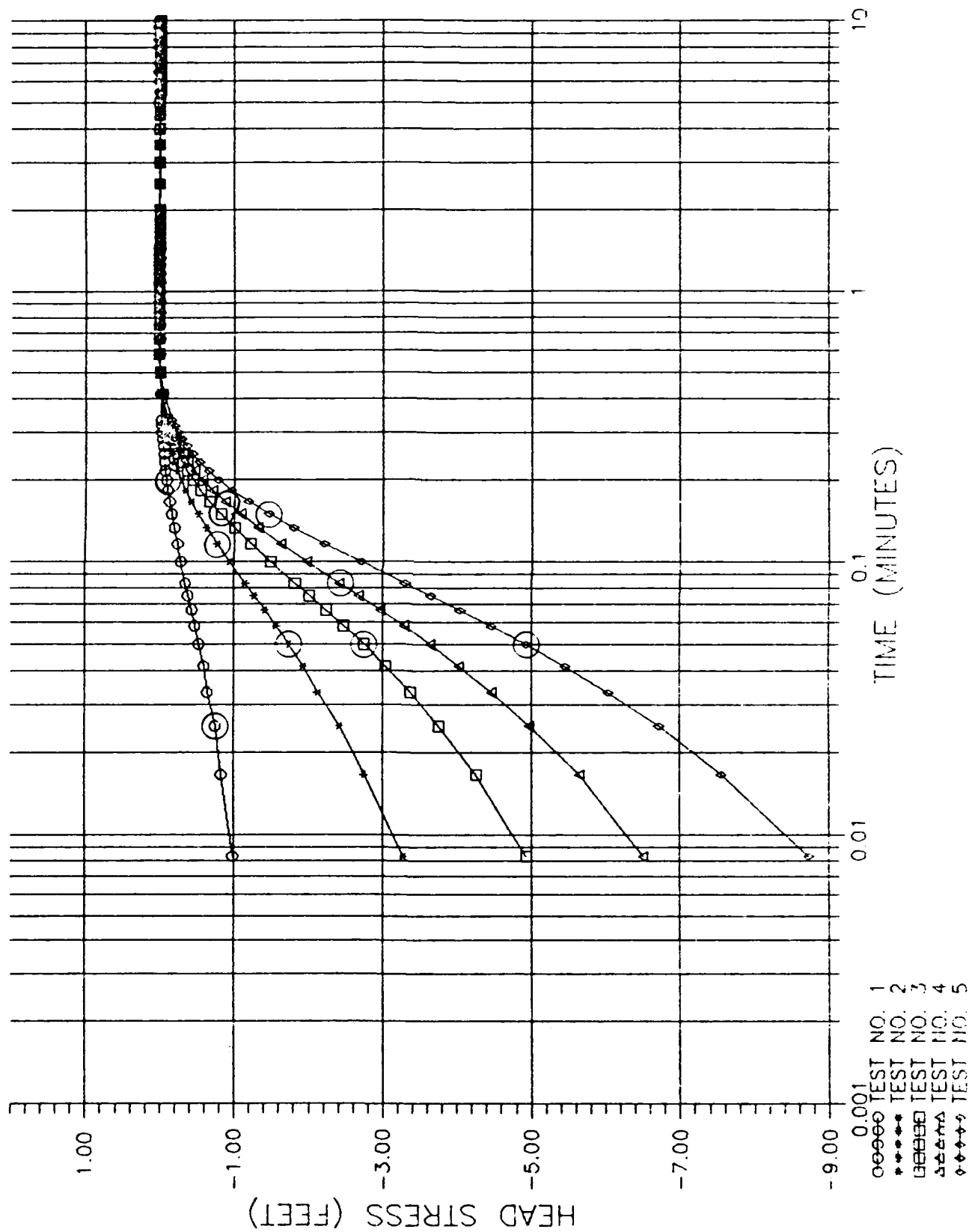
TEST 1		TEST 2		TEST 3	
TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.008	-3.248	0.008	-5.739	0.008	-12.103
0.017	-3.021	0.017	-5.266	0.017	-11.888
0.025	-2.731	0.025	-4.755	0.025	-11.005
0.033	-2.434	0.033	-4.257	0.033	-10.022
0.042	-2.163	0.042	-3.796	0.042	-9.094
0.050	-1.923	0.050	-3.393	0.050	-8.224
0.058	-1.709	0.058	-3.033	0.058	-7.429
0.067	-1.520	0.067	-2.712	0.067	-6.710
0.075	-1.356	0.075	-2.421	0.075	-6.061
0.083	-1.210	0.083	-2.169	0.083	-5.474
0.100	-0.964	0.100	-1.747	0.100	-4.465
0.117	-0.775	0.117	-1.406	0.117	-3.651
0.133	-0.624	0.133	-1.147	0.133	-2.995
0.150	-0.510	0.150	-0.939	0.150	-2.466
0.167	-0.422	0.167	-0.775	0.167	-2.043
0.183	-0.346	0.183	-0.649	0.183	-1.709
0.200	-0.290	0.200	-0.548	0.200	-1.444
0.217	-0.245	0.217	-0.466	0.217	-1.229
0.233	-0.208	0.233	-0.403	0.233	-1.059
0.250	-0.182	0.250	-0.353	0.250	-0.920
0.267	-0.163	0.267	-0.309	0.267	-0.813
0.283	-0.145	0.283	-0.277	0.283	-0.725
0.300	-0.132	0.300	-0.252	0.300	-0.655
0.317	-0.119	0.317	-0.227	0.317	-0.599
0.333	-0.107	0.333	-0.214	0.333	-0.555
0.417	-0.081	0.417	-0.163	0.417	-0.422
0.500	-0.069	0.500	-0.138	0.500	-0.346
0.583	-0.063	0.583	-0.119	0.583	-0.302
0.667	-0.056	0.667	-0.107	0.667	-0.271
0.750	-0.050	0.750	-0.100	0.750	-0.239
0.833	-0.044	0.833	-0.088	0.833	-0.214
1.000	-0.037	0.917	-0.081	0.917	-0.189
1.167	-0.031	1.000	-0.069	1.000	-0.170
1.250	-0.025	1.083	-0.063	1.083	-0.151
1.417	-0.018	1.167	-0.056	1.167	-0.138
1.750	-0.012	1.250	-0.050	1.250	-0.119
2.500	-0.006	1.333	-0.044	1.333	-0.107
		1.500	-0.037	1.417	-0.094
		1.583	-0.031	1.500	-0.081
		1.667	-0.025	1.583	-0.075
		1.833	-0.018	1.667	-0.069
		2.500	-0.006	1.750	-0.063
				1.833	-0.056
				1.917	-0.050
				2.000	-0.044
				2.500	-0.031
				3.000	-0.018
				3.500	-0.012

K=2.6E-2 CM/SEC

K=2.5E-2 CM/SEC

K=2.3E-2 CM/SEC

PBN-89-03B

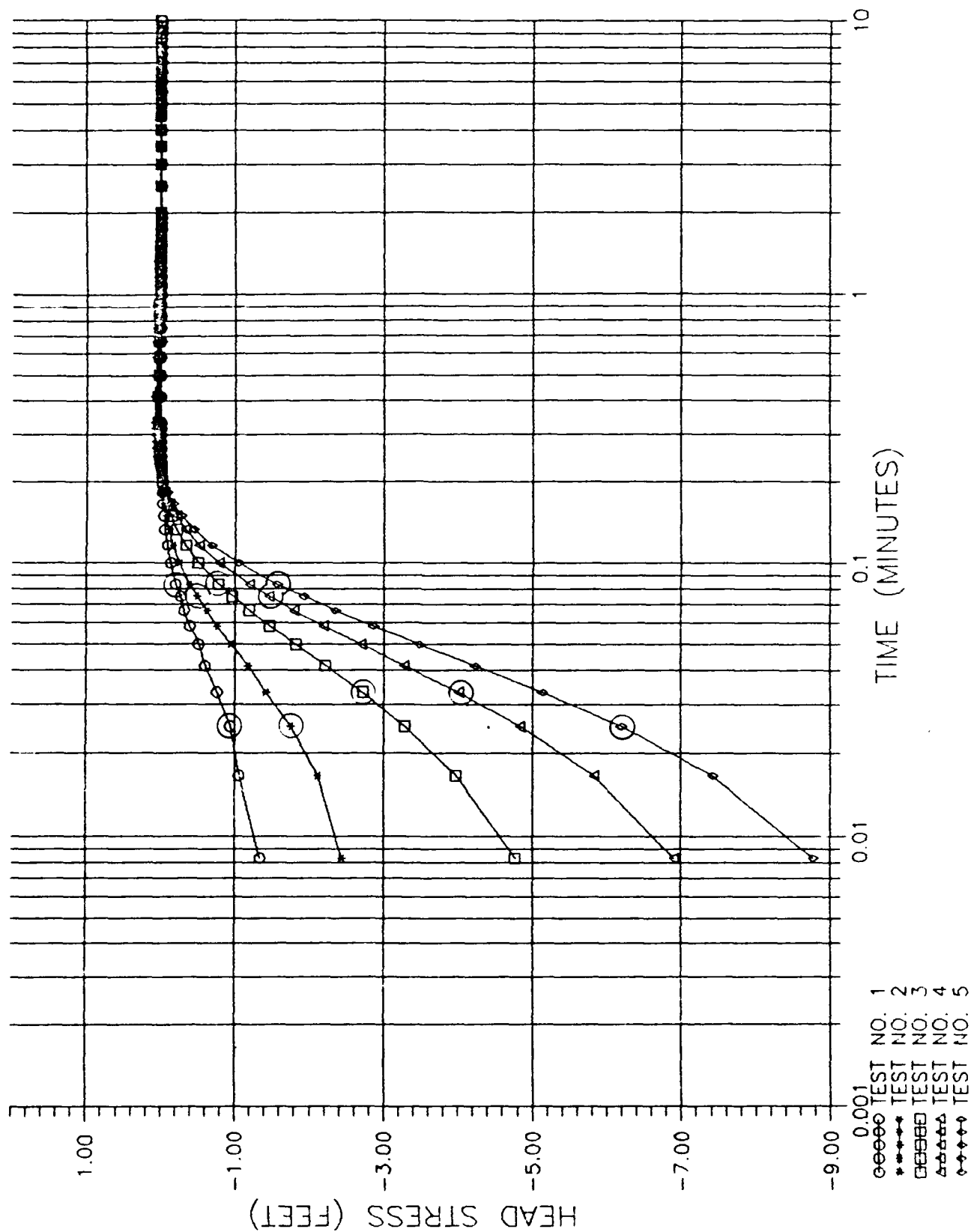


WELL PEN-99-003

WELL DIAMETER=0.31567, TEST LENGTH=10FT, BORING DIAMETER=1.000

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.982	0.008	-3.276	0.008	-4.936	0.008	-6.508	0.008	-8.726
0.017	-0.830	0.017	-2.756	0.017	-4.258	0.017	-5.653	0.017	-7.554
0.025	-0.747	0.025	-2.420	0.025	-3.758	0.025	-4.968	0.025	-6.717
0.033	-0.640	0.033	-2.129	0.033	-3.377	0.033	-4.474	0.033	-6.000
0.042	-0.595	0.042	-1.932	0.042	-3.035	0.042	-4.030	0.042	-5.456
0.050	-0.532	0.050	-1.736	0.050	-2.750	0.050	-3.644	0.050	-4.936
0.058	-0.475	0.058	-1.565	0.058	-2.477	0.058	-3.295	0.058	-4.467
0.067	-0.437	0.067	-1.419	0.067	-2.243	0.067	-2.972	0.067	-4.043
0.075	-0.386	0.075	-1.273	0.075	-2.021	0.075	-2.687	0.075	-3.556
0.083	-0.348	0.083	-1.153	0.083	-1.825	0.083	-2.427	0.083	-3.308
0.100	-0.285	0.100	-0.937	0.100	-1.435	0.100	-1.963	0.100	-2.706
0.117	-0.234	0.117	-0.766	0.117	-1.223	0.117	-1.628	0.117	-2.211
0.133	-0.190	0.133	-0.627	0.133	-1.001	0.133	-1.324	0.133	-1.799
0.150	-0.152	0.150	-0.513	0.150	-0.817	0.150	-1.083	0.150	-1.470
0.167	-0.126	0.167	-0.418	0.167	-0.665	0.167	-0.874	0.167	-1.191
0.183	-0.101	0.183	-0.342	0.183	-0.545	0.183	-0.709	0.183	-0.950
0.200	-0.082	0.200	-0.278	0.200	-0.443	0.200	-0.576	0.200	-0.779
0.217	-0.063	0.217	-0.228	0.217	-0.361	0.217	-0.462	0.217	-0.650
0.233	0.057	0.233	-0.183	0.233	-0.297	0.233	-0.373	0.233	-0.532
0.250	-0.044	0.250	-0.152	0.250	-0.240	0.250	-0.318	0.250	-0.437
0.267	-0.038	0.267	-0.120	0.267	-0.196	0.267	-0.253	0.267	-0.361
0.283	-0.025	0.283	-0.095	0.283	-0.158	0.283	-0.202	0.283	-0.291
0.300	-0.019	0.300	-0.076	0.300	-0.126	0.300	-0.164	0.300	-0.234
0.333	-0.012	0.317	-0.057	0.317	-0.101	0.317	-0.126	0.317	-0.190
0.417	0.000	0.333	-0.044	0.333	-0.032	0.333	-0.101	0.333	-0.152
0.500	0.006	0.417	-0.006	0.417	-0.025	0.417	-0.019	0.417	-0.044
5.000	0.012	0.500	0.006	0.500	0.006	0.500	0.019	0.500	0.012
5.500	0.006	0.583	0.019	0.583	0.019	0.583	0.031	0.583	0.025
6.000	0.012	1.083	0.012	1.167	0.012	1.083	0.025	0.667	0.038
7.500	0.006	1.750	0.006	1.500	0.006	1.333	0.019	0.917	0.031
8.000	0.012	2.500	0.000	2.500	0.000	1.667	0.012	1.083	0.025
K=2.5E-2 CM/SEC		7.000	0.006	5.500	-0.006	3.000	0.006	1.333	0.019
		7.500	0.000	K=2.4E-2 CM/SEC		4.000	0.000	1.667	0.012
		12.000	0.006			K=2.4E-2 CM/SEC		1.750	0.006
		K=2.5E-2 CM/SEC						3.000	0.000
								4.000	-0.006
								K=2.4E-2 CM/SEC	

PBN-89-03C



WELL PBN-89-030

WELL DIAMETER=0.315 FT. TEST LENGTH=10 FT. PUMPING DIAMETER=0.31 FT

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.000	-1.543	0.000	-1.439	0.000	-4.372	0.000	-6.931	0.000	-8.771
0.017	-1.058	0.017	-2.116	0.017	-3.979	0.017	-5.830	0.017	-7.427
0.025	-0.931	0.025	-1.755	0.025	-3.282	0.025	-4.835	0.025	-6.199
0.033	-0.754	0.033	-1.413	0.033	-2.718	0.033	-4.011	0.033	-5.139
0.042	-0.595	0.042	-1.178	0.042	-2.218	0.042	-3.276	0.042	-4.239
0.050	-0.507	0.050	-0.937	0.050	-1.812	0.050	-2.695	0.050	-3.479
0.058	-0.392	0.058	-0.760	0.058	-1.470	0.058	-2.199	0.058	-2.964
0.067	-0.316	0.067	-0.621	0.067	-1.191	0.067	-1.793	0.067	-2.351
0.075	-0.266	0.075	-0.487	0.075	-0.963	0.075	-1.463	0.075	-1.926
0.083	-0.202	0.083	-0.392	0.083	-0.779	0.083	-1.191	0.083	-1.571
0.100	-0.153	0.100	-0.247	0.100	-0.597	0.100	-0.785	0.100	-1.045
0.117	-0.082	0.117	-0.158	0.117	-0.329	0.117	-0.513	0.117	-0.684
0.133	-0.050	0.133	-0.101	0.133	-0.209	0.133	-0.329	0.133	-0.443
0.150	-0.031	0.150	-0.063	0.150	-0.126	0.150	-0.202	0.150	-0.272
0.167	-0.019	0.167	-0.038	0.167	-0.076	0.167	-0.114	0.167	-0.164
0.183	-0.012	0.183	-0.019	0.183	-0.036	0.183	-0.057	0.183	-0.082
0.200	-0.006	0.200	-0.012	0.200	-0.012	0.200	-0.019	0.200	-0.031
0.217	0.000	0.217	0.000	0.217	0.006	0.217	0.006	0.217	0.006
0.250	0.006	0.250	0.006	0.233	0.019	0.233	0.031	0.233	0.031
0.833	0.000	0.267	0.012	0.250	0.025	0.250	0.044	0.250	0.050
1.750	-0.006	0.417	0.019	0.267	0.031	0.267	0.050	0.267	0.063
3.500	0.000	0.500	0.012	0.283	0.038	0.283	0.057	0.283	0.069
4.000	-0.006	0.750	0.006	0.333	0.044	0.300	0.063	0.300	0.076
4.500	0.000	1.417	0.000	0.500	0.038	0.333	0.069	0.333	0.082
5.000	-0.006	4.500	-0.006	0.667	0.031	0.500	0.063	0.500	0.076
14.000	0.000			0.833	0.025	0.583	0.057	0.583	0.069
				1.000	0.019	0.667	0.050	0.667	0.063
				1.083	0.012	0.833	0.044	0.750	0.050
				1.417	0.006	0.917	0.038	0.917	0.044
				1.500	0.012	1.167	0.031	1.000	0.039
				1.583	0.006	1.250	0.025	1.167	0.031
				3.000	0.000	1.583	0.019	1.250	0.025
				9.500	-0.019	2.500	0.012	1.417	0.019
				10.000	0.006			1.583	0.012
								1.833	0.006
								3.500	0.000
								7.500	-0.006

K=4.3E-2 CM/SEC

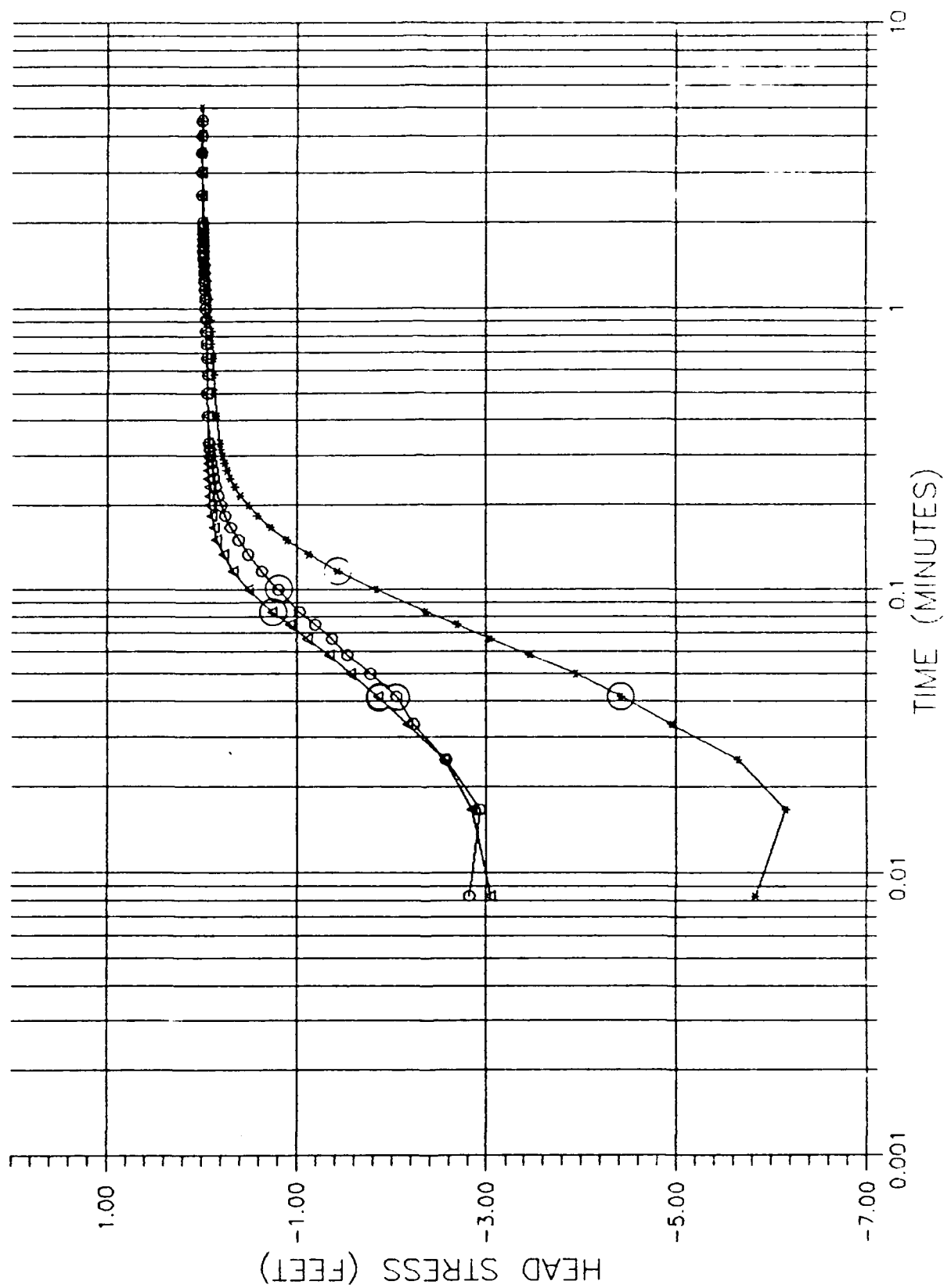
K=4.4E-2 CM/SEC

K=4.2E-2 CM/SEC

K=4.0E-2 CM/SEC

K=4.0E-2 CM/SEC

PBN-89-04C



OOOOO TEST NO. 1
..... TEST NO. 2
^ ^ ^ ^ ^ TEST NO. 3

WELL PBN-89-04C
WELL DIAMETER=0.1125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

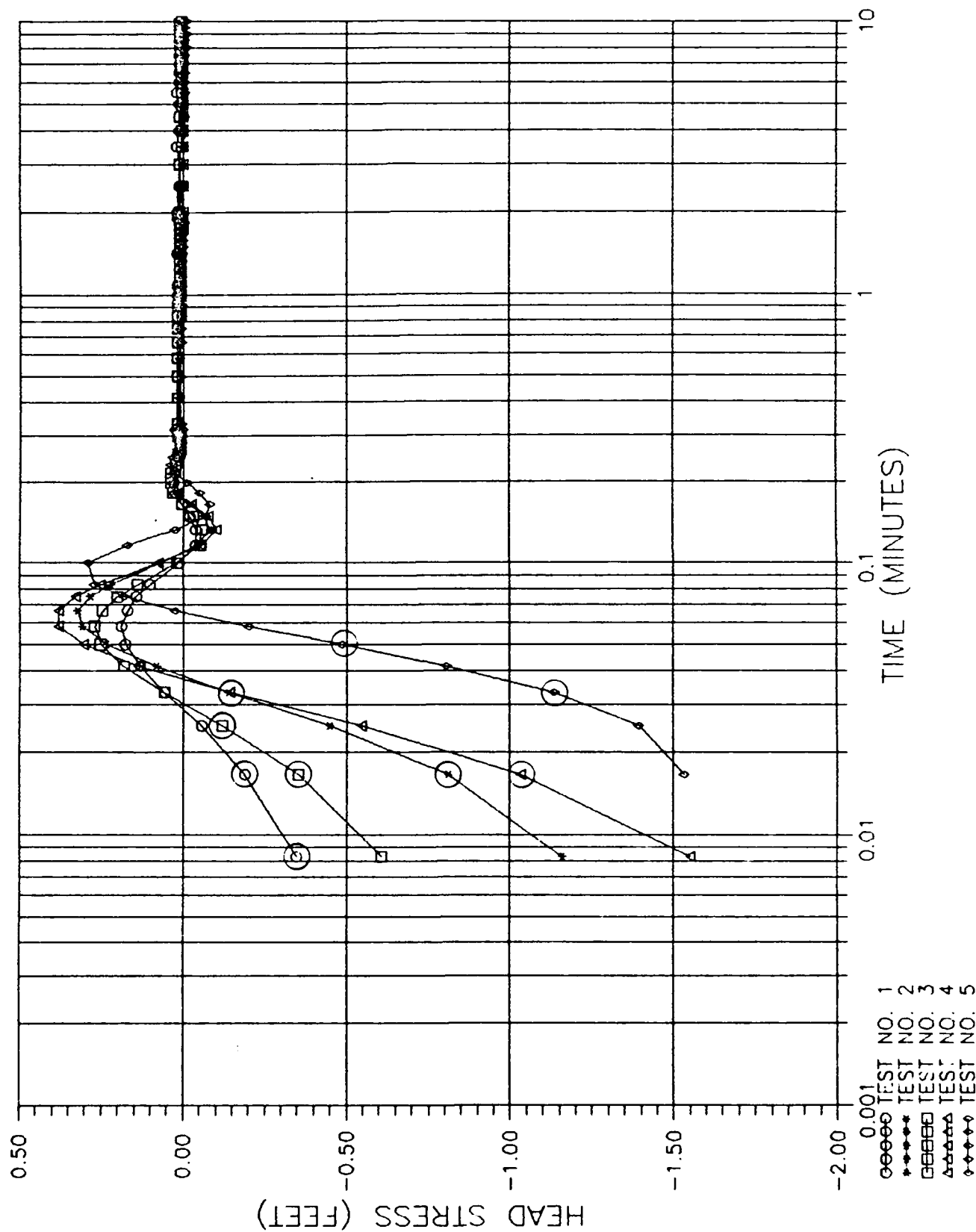
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-2.820	0.008	-5.834	0.008	-3.046
0.017	-2.927	0.017	-6.149	0.017	-2.844
0.025	-2.574	0.025	-5.651	0.025	-2.554
0.033	-2.233	0.033	-4.951	0.033	-2.169
0.042	-2.050	0.042	-4.415	0.042	-1.860
0.050	-1.779	0.050	-3.941	0.050	-1.564
0.058	-1.533	0.058	-3.456	0.058	-1.343
0.067	-1.375	0.067	-3.040	0.067	-1.122
0.075	-1.193	0.075	-2.686	0.075	-0.927
0.083	-1.035	0.083	-2.365	0.083	-0.744
0.100	-0.808	0.100	-1.835	0.100	-0.485
0.117	-0.631	0.117	-1.431	0.117	-0.334
0.133	-0.486	0.133	-1.128	0.133	-0.227
0.150	-0.385	0.150	-0.895	0.150	-0.157
0.167	-0.303	0.167	-0.719	0.167	-0.126
0.183	-0.246	0.183	-0.586	0.183	-0.100
0.200	-0.202	0.200	-0.485	0.200	-0.081
0.217	-0.171	0.217	-0.403	0.233	-0.075
0.233	-0.146	0.233	-0.346	0.250	-0.069
0.250	-0.127	0.250	-0.296	0.417	-0.063
0.267	-0.114	0.267	-0.264	0.500	-0.056
0.283	-0.101	0.283	-0.239	0.583	-0.050
0.300	-0.089	0.300	-0.214	0.667	-0.044
0.317	-0.082	0.317	-0.195	0.833	-0.037
0.333	-0.076	0.333	-0.189	0.917	-0.031
0.417	-0.064	0.417	-0.151	1.083	-0.025
0.500	-0.057	0.500	-0.138	1.250	-0.018
0.667	-0.051	0.583	-0.119	1.417	-0.012
0.750	-0.045	0.667	-0.113	1.750	-0.006
0.833	-0.038	0.750	-0.100	2.500	0.000
1.000	-0.032	0.833	-0.094	3.500	0.006
1.167	-0.026	0.917	-0.081		
1.250	-0.019	1.000	-0.075		
1.500	-0.013	1.083	-0.069		
1.917	-0.007	1.167	-0.063		
		1.250	-0.056		
		1.333	-0.044		
		1.500	-0.037		
		1.667	-0.031		
		1.750	-0.025		
		2.000	-0.018		
		2.500	-0.012		
		3.000	-0.006		

K=2.4E-2 CM/SEC

K=3.4E-2 CM/SEC

K=2.2E-2 CM/SEC

PBN-89-10B



WELL PEN-89-109

WELL DIAMETER=0.3106FT, SCREEN LENGTH=13FT, BOPING DIAMETER=0.76FT

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.348	0.008	-1.159	0.008	-0.354	0.008	-1.552	0.017	-1.533
0.017	-0.190	0.017	-0.811	0.017	-0.120	0.017	-1.033	0.025	-1.394
0.025	-0.057	0.025	-0.449	0.025	0.057	0.025	-0.545	0.033	-1.134
0.033	0.057	0.033	-0.139	0.033	0.183	0.033	-0.145	0.042	-0.934
0.042	0.133	0.042	0.082	0.042	0.253	0.042	0.133	0.050	-0.137
0.050	0.177	0.050	0.234	0.050	0.272	0.050	0.304	0.058	-0.202
0.058	0.190	0.058	0.310	0.058	0.247	0.058	0.383	0.067	0.025
0.067	0.171	0.067	0.323	0.067	0.202	0.075	0.329	0.075	0.153
0.075	0.145	0.075	0.285	0.075	0.139	0.083	0.253	0.083	0.272
0.083	0.101	0.083	0.221	0.083	0.019	0.100	0.076	0.100	0.291
0.100	0.012	0.100	0.069	0.100	-0.050	0.117	-0.057	0.117	0.171
0.117	-0.038	0.117	-0.044	0.117	-0.057	0.133	-0.101	0.133	0.025
0.150	-0.019	0.133	-0.082	0.133	-0.031	0.150	-0.076	0.150	-0.069
0.167	0.006	0.150	-0.063	0.150	0.006	0.167	-0.025	0.167	-0.082
0.183	0.025	0.167	-0.025	0.167	0.031	0.183	0.019	0.183	-0.050
0.200	0.031	0.183	0.019	0.183	0.038	0.200	0.038	0.200	-0.012
0.217	0.025	0.200	0.038	0.200	0.025	0.233	0.025	0.217	0.025
0.233	0.019	0.233	0.025	0.233	0.019	0.250	0.012	0.233	0.038
0.250	0.012	0.250	0.012	0.250	0.012	0.267	0.006	0.250	0.031
0.317	0.025	0.267	0.006	0.267	0.019	0.317	0.012	0.267	0.019
0.333	0.019	0.317	0.012	0.300	0.012	0.833	0.006	0.283	0.006
0.917	0.012	1.000	0.006	1.000	0.006	1.750	0.000	0.300	0.000
1.000	0.019	1.083	0.012	2.500	0.012	6.000	0.006	0.333	0.006
1.167	0.012	1.167	0.006	3.000	0.006	6.500	0.000	0.417	0.012
1.417	0.019	1.750	0.000	3.500	0.012	8.000	0.006	0.500	0.006
1.500	0.012	1.917	0.006	4.500	0.006	8.500	0.000	0.583	0.012
1.917	0.019	2.500	0.000	5.000	0.012	9.000	0.006	0.657	0.006
2.500	0.012	4.000	0.006	14.000	0.006			1.417	0.000
3.500	0.019	4.500	0.000	16.000	0.012	K=1.9E-1 CM/SEC		1.833	0.006
4.000	0.012	5.000	0.006	24.000	0.019			1.917	0.006
5.500	0.019	5.500	0.000	39.000	0.012			2.000	0.000
6.000	0.012			34.000	0.006			4.000	-0.006
				40.000	0.012			8.000	-0.012
				45.000	0.006			8.500	-0.006
				50.000	0.000			9.000	-0.012
								9.500	-0.006
								10.000	-0.012
								12.000	-0.006
								24.000	0.000
								26.000	-0.006

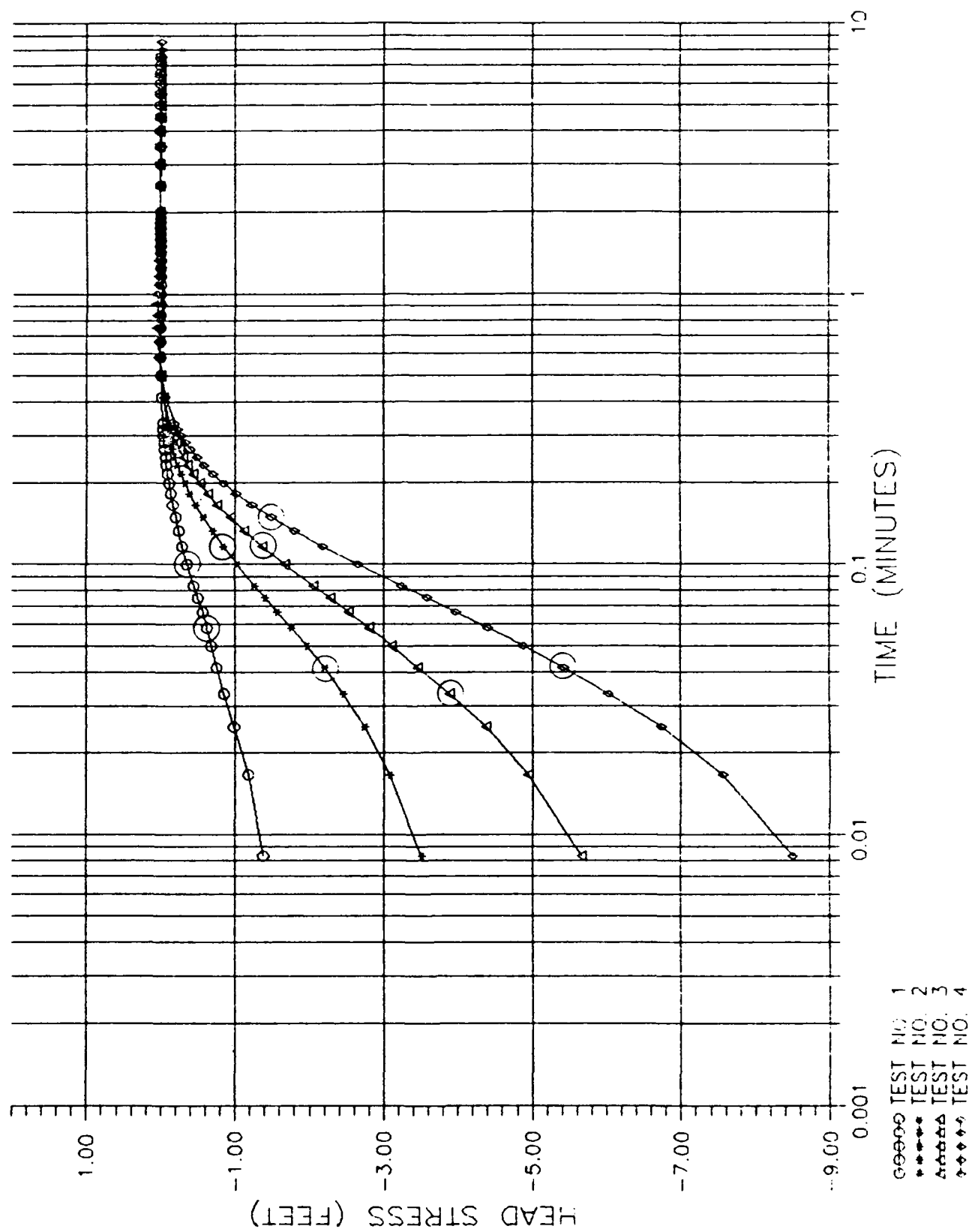
K=1.8E-1 CM/SEC

K=1.7E-1 CM/SEC

K=2.1E-1 CM/SEC

K=0.5E-2 CM/SEC

PBN-89-10C

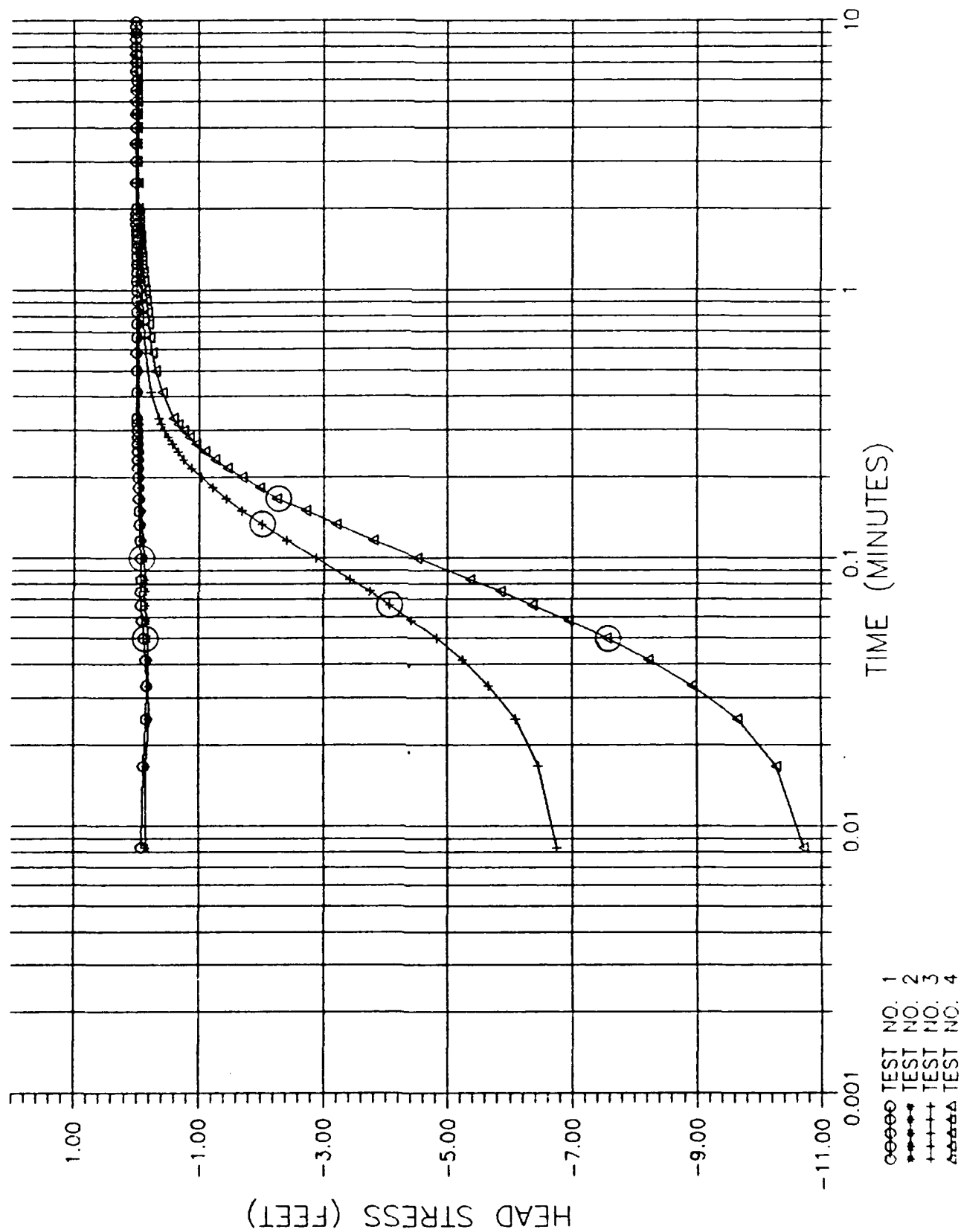


WELL PBN-89-10C
WELL DIAMETER=0.3125FT. SCREEN LENGTH=10FT. BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-1.381	0.008	-3.511	0.008	-5.659	0.008	-8.505
0.017	-1.178	0.017	-3.086	0.017	-4.943	0.017	-7.567
0.025	-0.982	0.025	-2.744	0.025	-4.372	0.025	-6.736
0.033	-0.849	0.033	-2.458	0.033	-3.834	0.033	-6.027
0.042	-0.747	0.042	-2.205	0.042	-3.460	0.042	-5.418
0.050	-0.678	0.050	-1.970	0.050	-3.111	0.050	-4.879
0.058	-0.621	0.058	-1.761	0.058	-2.807	0.058	-4.404
0.067	-0.564	0.067	-1.571	0.067	-2.528	0.067	-3.973
0.075	-0.500	0.075	-1.406	0.075	-2.281	0.075	-3.587
0.083	-0.443	0.083	-1.261	0.083	-2.059	0.083	-3.244
0.100	-0.354	0.100	-1.026	0.100	-1.673	0.100	-2.655
0.117	-0.285	0.117	-0.842	0.117	-1.363	0.117	-2.180
0.133	-0.240	0.133	-0.697	0.133	-1.128	0.133	-1.799
0.150	-0.196	0.150	-0.570	0.150	-0.931	0.150	-1.489
0.167	-0.158	0.167	-0.468	0.167	-0.760	0.167	-1.223
0.183	-0.133	0.183	-0.386	0.183	-0.633	0.183	-1.014
0.200	-0.107	0.200	-0.323	0.200	-0.526	0.200	-0.842
0.217	-0.088	0.217	-0.266	0.217	-0.430	0.217	-0.697
0.233	-0.069	0.233	-0.221	0.233	-0.354	0.233	-0.576
0.250	-0.063	0.250	-0.183	0.250	-0.297	0.250	-0.461
0.267	-0.050	0.267	-0.152	0.267	-0.247	0.267	-0.399
0.283	-0.038	0.283	-0.126	0.283	-0.196	0.283	-0.329
0.300	-0.031	0.300	-0.107	0.300	-0.164	0.300	-0.272
0.317	-0.025	0.317	-0.088	0.317	-0.133	0.317	-0.221
0.417	-0.006	0.333	-0.076	0.333	-0.107	0.333	-0.183
0.500	0.000	0.417	-0.031	0.417	-0.033	0.417	-0.063
0.583	0.006	0.500	-0.006	0.500	0.000	0.500	-0.006
		0.583	0.006	0.583	0.025	0.583	0.025
K=2.6E-2 CM/SEC		0.750	0.012	0.667	0.031	0.667	0.038
		1.750	0.006	1.000	0.038	0.750	0.044
		1.833	0.012	1.167	0.025	0.833	0.050
		2.000	0.006	1.250	0.031	0.917	0.057
		3.000	0.000	1.333	0.038	1.083	0.038
K=2.6E-2 CM/SEC				1.417	0.025	1.167	0.025
				1.583	0.019	1.250	0.019
				2.500	0.012	1.500	0.012
				3.500	0.006	1.917	0.006
				4.500	0.000	3.000	0.000
K=2.3E-2 CM/SEC						3.500	-0.006
						6.000	-0.012

K=2.4E-2 CM/SEC

PBN-89-10D



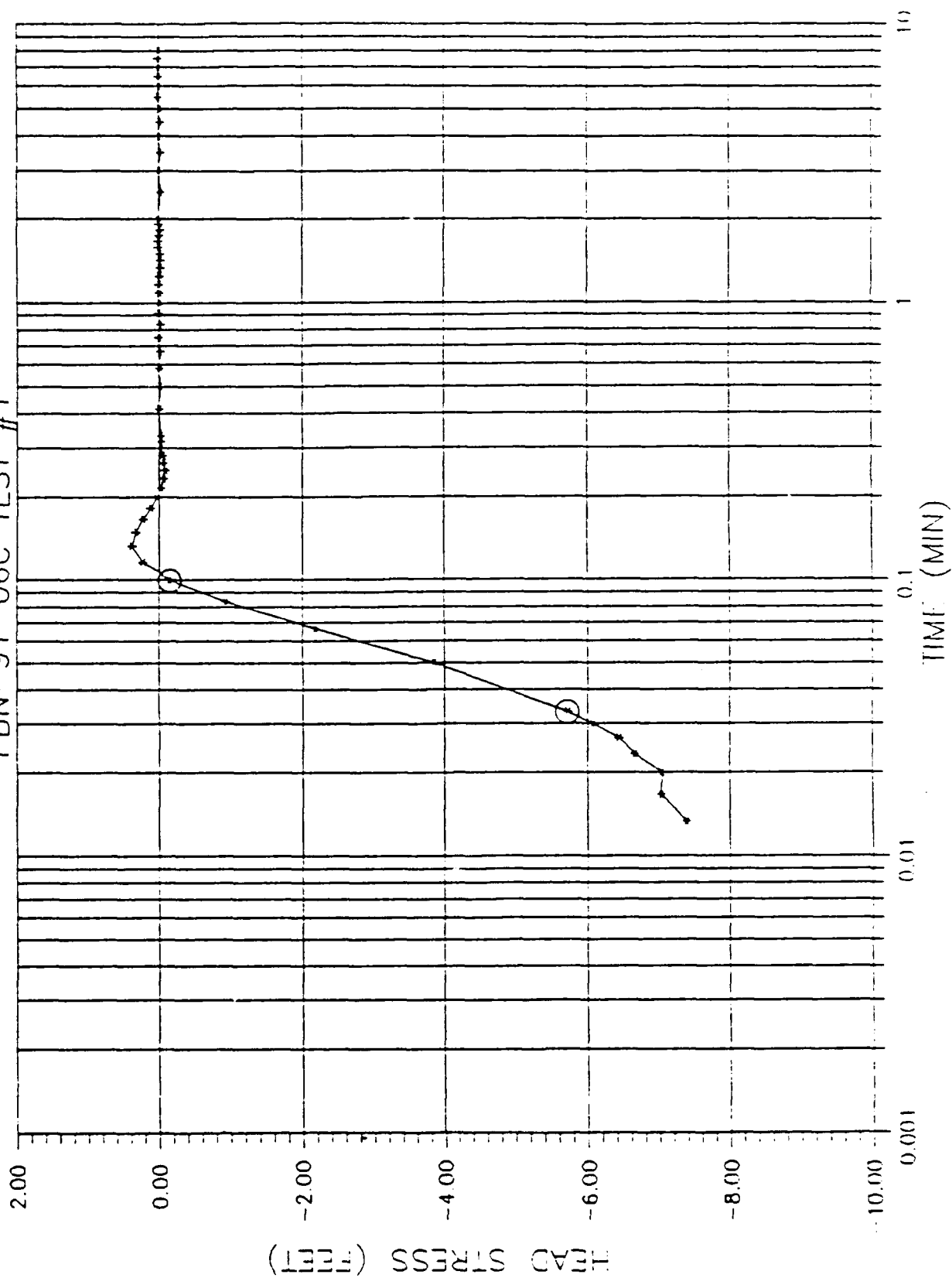
WELL PBN-89-100

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.081	0.008	-0.151	0.008	-6.743	0.008	-10.715
0.017	-0.113	0.017	-0.157	0.017	-6.464	0.017	-10.280
0.025	-0.157	0.025	-0.201	0.025	-6.099	0.025	-9.662
0.033	-0.163	0.033	-0.195	0.033	-5.670	0.033	-8.937
0.042	-0.151	0.050	-0.189	0.042	-5.241	0.042	-8.230
0.050	-0.119	0.058	-0.170	0.050	-4.824	0.050	-7.568
0.058	-0.094	0.067	-0.157	0.058	-4.427	0.058	-6.943
0.067	-0.075	0.075	-0.138	0.067	-4.080	0.067	-6.370
0.075	-0.069	0.083	-0.126	0.075	-3.746	0.075	-5.846
0.100	-0.063	0.100	-0.113	0.083	-3.431	0.083	-5.360
0.117	-0.050	0.117	-0.094	0.100	-2.876	0.100	-4.509
0.133	-0.037	0.133	-0.075	0.117	-2.403	0.117	-3.809
0.150	-0.031	0.150	-0.069	0.133	-2.011	0.133	-3.216
0.167	-0.025	0.167	-0.063	0.150	-1.696	0.150	-2.725
0.183	-0.018	0.183	-0.056	0.167	-1.431	0.167	-2.252
0.200	-0.012	0.200	-0.050	0.183	-1.210	0.183	-1.974
0.217	-0.006	0.217	-0.044	0.200	-1.028	0.200	-1.691
0.267	0.000	0.233	-0.037	0.217	-0.876	0.217	-1.457
0.317	0.006	0.250	-0.044	0.233	-0.756	0.233	-1.255
0.583	0.012	0.267	-0.037	0.250	-0.649	0.250	-1.091
0.667	0.006	0.283	-0.031	0.267	-0.567	0.267	-0.953
1.750	0.012	0.333	-0.025	0.283	-0.491	0.283	-0.839
2.000	0.006	0.500	-0.018	0.300	-0.435	0.300	-0.745
2.500	0.012	0.583	-0.025	0.317	-0.384	0.317	-0.663
6.000	0.006	1.000	-0.018	0.333	-0.346	0.333	-0.593
6.500	0.012	1.167	-0.025	0.417	-0.227	0.417	-0.404
K=1.9E-2 CM/SEC		1.250	-0.018	0.500	-0.163	0.500	-0.297
		1.333	-0.025	0.583	-0.132	0.583	-0.246
		1.500	-0.018	0.667	-0.113	0.667	-0.208
		1.750	-0.025	0.750	-0.100	0.750	-0.183
		1.833	-0.018	0.833	-0.094	0.833	-0.164
		1.917	-0.025	0.917	-0.081	0.917	-0.145
		2.000	-0.018	1.000	-0.075	1.000	-0.133
		5.500	-0.025	1.083	-0.063	1.083	-0.114
		6.000	-0.018	1.167	-0.056	1.167	-0.101
				1.333	-0.044	1.250	-0.089
K=1.5E-2 CM/SEC				1.500	-0.037	1.333	-0.082
				1.583	-0.031	1.417	-0.070
				1.750	-0.025	1.500	-0.063
				2.000	-0.018	1.667	-0.051
				2.500	-0.012	1.750	-0.044
				3.000	-0.006	1.917	-0.038
				4.000	0.000	2.000	-0.032
				6.000	-0.006	2.500	-0.019
						3.000	-0.013
						3.500	-0.007
K=1.6E-2 CM/SEC						4.000	0.000

K=5.0E-2 CM/SEC

PBN-91-06C TEST #1

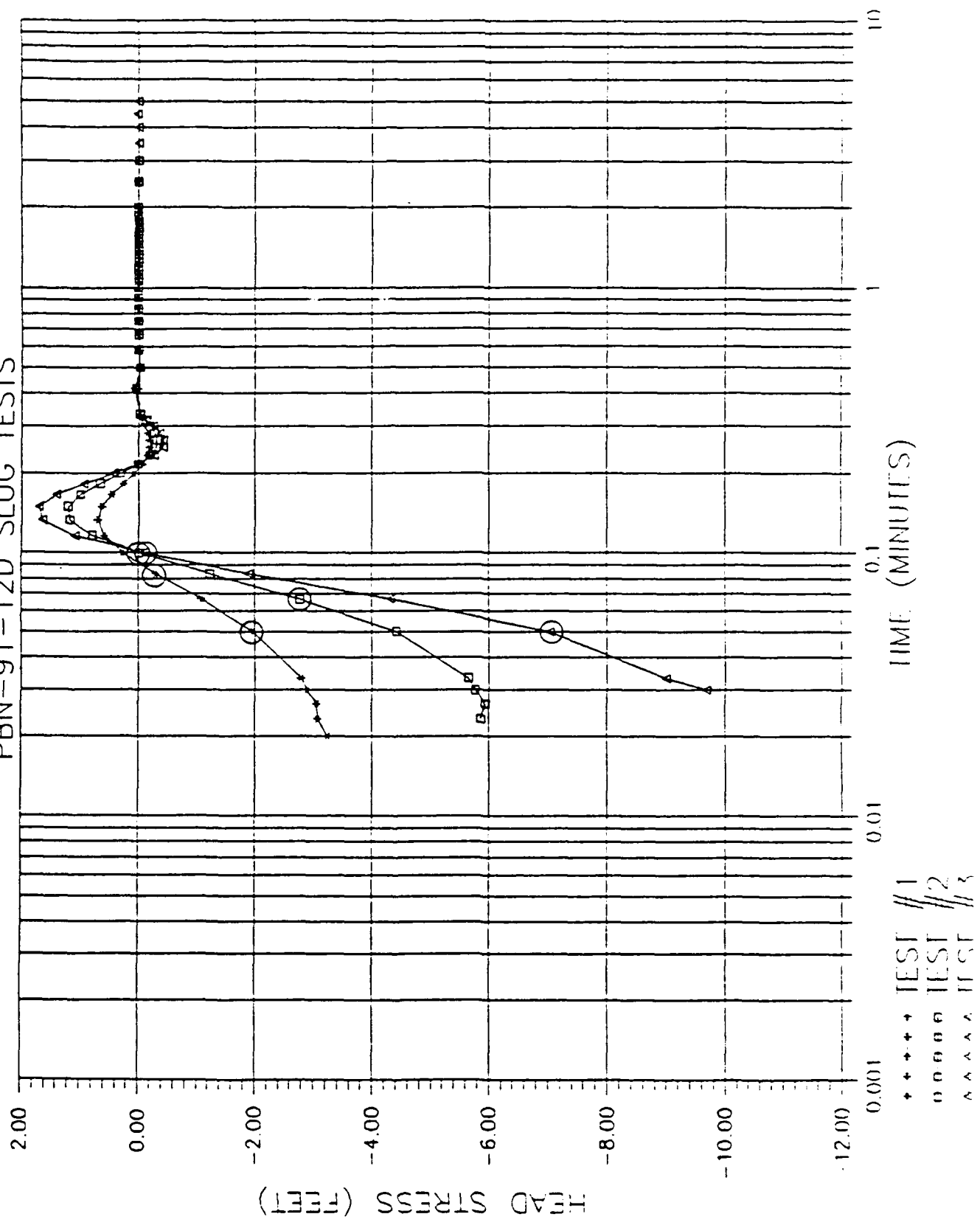


WELL PBN-31-36C
WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1	
MINUTES	FEET
0.0033	-0.12
0.0066	-2.17
0.0099	-5.96
0.0133	-7.38
0.0166	-7.02
0.02	-7.03
0.0233	-8.65
0.0266	-8.43
0.03	-8.06
0.0333	-5.72
0.05	-3.86
0.0666	-2.18
0.0833	-0.94
0.1	-0.15
0.1166	0.23
0.1333	0.38
0.15	0.32
0.1666	0.22
0.1833	0.12
0.2	0.03
0.2166	-0.03
0.2333	-0.07
0.25	-0.09
0.2666	-0.07
0.2833	-0.05
0.3	-0.03
0.3166	-0.03
0.3333	-0.03
0.4167	-0.01
0.5	-0.02
0.5833	-0.01
0.6667	-0.02
0.75	0
0.8333	-0.02
0.9167	0
1	-0.01
1.0833	-0.01
1.1667	0
1.25	-0.01
1.3333	-0.02
1.4166	-0.02
1.5	-0.02
1.5833	0
1.6667	0
1.75	-0.01
1.8333	-0.02
1.9167	0
2	0.01
2.5	-0.03
3	0
3.6	-0.02
4	0
4.5	-0.02
5	-0.01
5.5	0.01
6	0
6.5	0
7	0
7.5	0
8	0

HVORSLEV:
K = 0.018 CM/SEC
BOUWER AND RICE
K = 0.189 CM/SEC

PBN-91-12D SLUG TESTS



WELL P8N-91-120

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3	
MINUTES	FEET	MINUTES	FEET	MINUTES	FEET
0.0033	0.25	0.0033	0.07	0.0033	0.46
0.0066	-0.65	0.0066	0.07	0.0066	0.45
0.0099	-2.65	0.0099	0.07	0.0099	0.45
0.0133	-3.44	0.0133	0.07	0.0133	0.44
0.0166	-3.13	0.0166	-0.64	0.0166	-3.42
0.02	-3.24	0.02	-4.37	0.02	-7.96
0.0233	-3.08	0.0233	-5.87	0.0233	-10.27
0.0266	-3.06	0.0266	-5.95	0.0266	-9.31
0.03	-2.89	0.03	-5.77	0.03	-9.69
0.0333	-2.79	0.0333	-5.85	0.0333	-9
0.05	-1.97	0.05	-4.42	0.05	-7.04
0.0666	-1.08	0.0666	-2.77	0.0666	-4.32
0.0833	-0.29	0.0833	-1.23	0.0833	-1.9
0.1	0.28	0.1	-0.01	0.1	-0.07
0.1166	0.8	0.1166	0.8	0.1166	1.09
0.1333	0.71	0.1333	1.18	0.1333	1.66
0.15	0.64	0.15	1.21	0.15	1.7
0.1666	0.47	0.1666	1	0.1666	1.41
0.1833	0.27	0.1833	0.67	0.1833	0.94
0.2	0.08	0.2	0.32	0.2	0.44
0.2166	-0.07	0.2166	0.01	0.2166	0.02
0.2333	-0.18	0.2333	-0.19	0.2333	-0.27
0.25	-0.19	0.25	-0.3	0.25	-0.42
0.2666	-0.19	0.2666	-0.31	0.2666	-0.43
0.2833	-0.15	0.2833	-0.27	0.2833	-0.37
0.3	-0.1	0.3	-0.19	0.3	-0.28
0.3166	-0.06	0.3166	-0.11	0.3166	-0.14
0.3333	-0.01	0.3333	-0.02	0.3333	-0.03
0.4167	0.01	0.4167	0.05	0.4167	0.08
0.5	-0.02	0.5	-0.01	0.5	-0.02
0.5833	0	0.5833	0.01	0.5833	0.01
0.6667	0	0.6667	0.01	0.6667	0.01
0.75	0	0.75	0.01	0.75	0.01
0.8333	0	0.8333	0.01	0.8333	0.01
0.9167	0	0.9167	0.01	0.9167	0.01
1	0	1	0.01	1	0.01
1.0833	0	1.0833	0.01	1.0833	0.01
1.1667	0	1.1667	0.01	1.1667	0.01
1.25	0	1.25	0.01	1.25	0.01
1.3333	0	1.3333	0.01	1.3333	0.01
1.4166	0	1.4166	0.01	1.4166	0.01
1.5	0	1.5	0.01	1.5	0.01
1.5833	0	1.5833	0.01	1.5833	0.01
1.6667	0	1.6667	0	1.6667	0.01
1.75	0	1.75	0	1.75	0.01
1.8333	0	1.8333	0.01	1.8333	0.01
1.9167	0	1.9167	0.01	1.9167	0.01
2	0	2	0.01	2	0.01
2.5	0	2.5	0	2.5	0.01
		3	0	3	0.01
				3.6	0
				4	0
				4.5	0.01
				5	0

HYDROLEV:

K = 0.017 CM/SEC

BOUWER AND RICE:

K = 0.072 CM/SEC

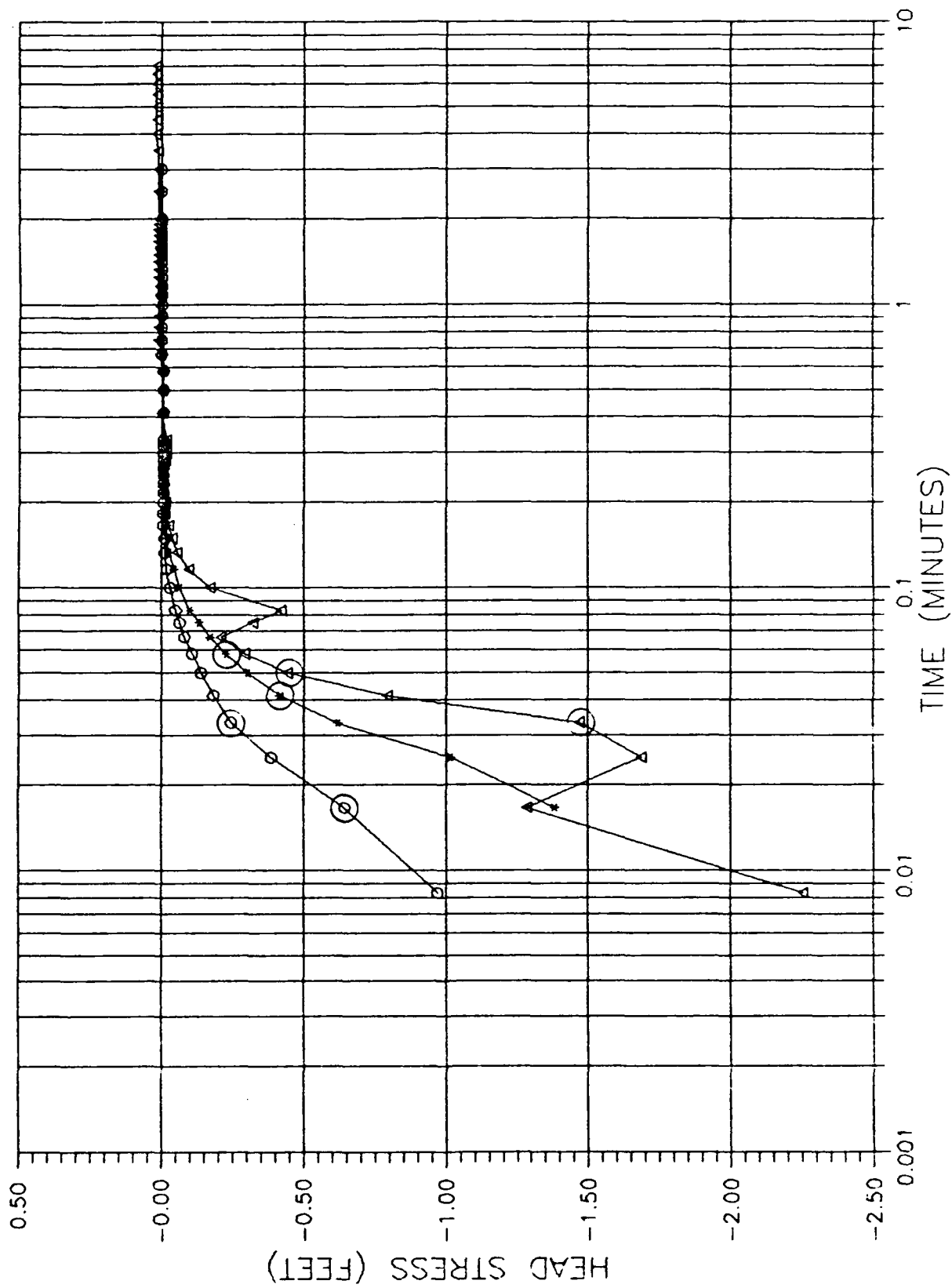
K = 0.048 CM/SEC

K = 0.063 CM/SEC

K = 0.026 CM/SEC

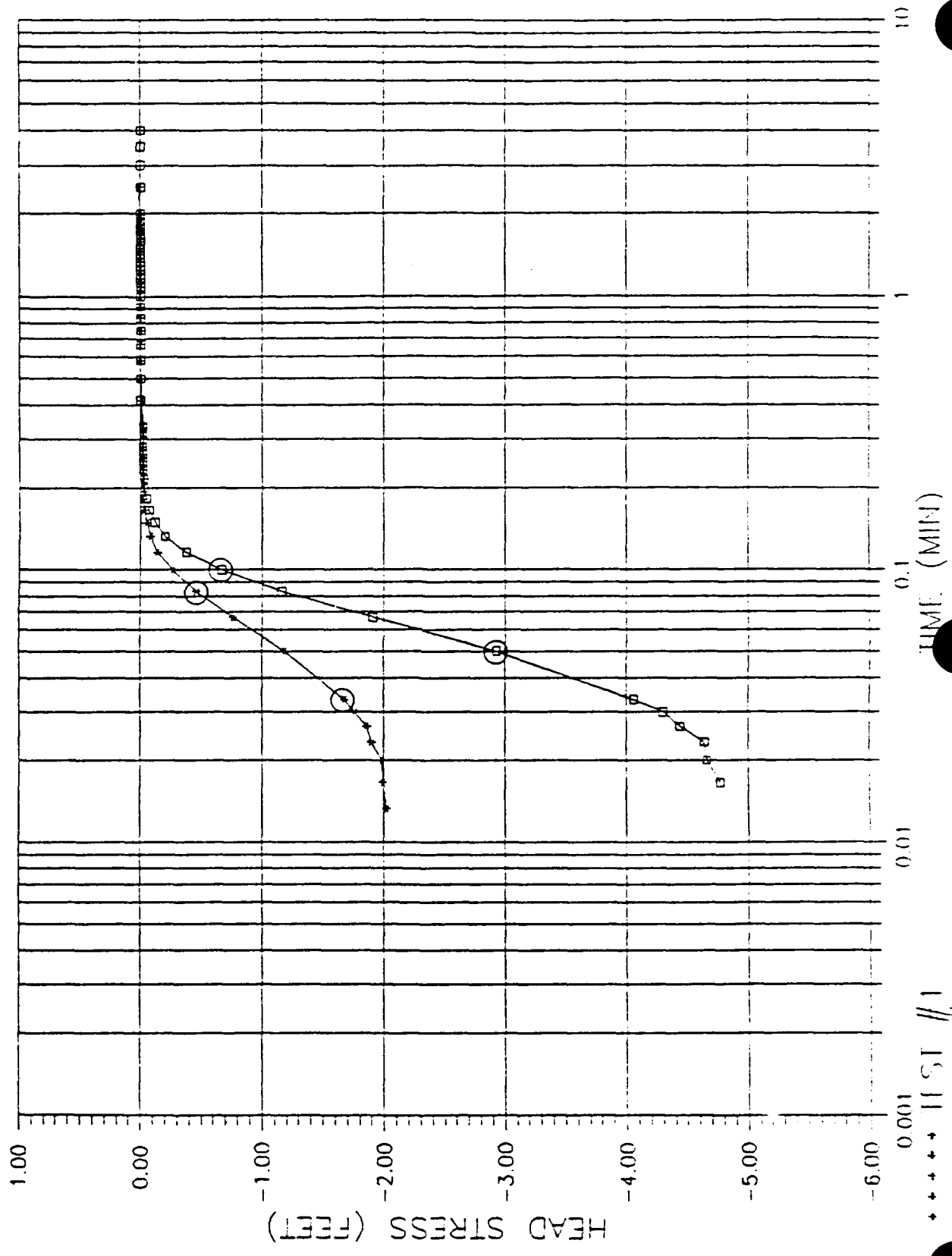
K = 0.089 CM/SEC

LOM-89-01



ooooo TEST NO. 1
***** TEST NO. 2
ΔΔΔΔΔ TEST NO. 3

PBN-91-12C SLUG TESTS



WELL PBN-91-12C

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2	
MINUTES	FEET	MINUTES	FEET
0.0033	-0.06	0.0033	0.02
0.0066	-1.2	0.0066	0.03
0.0099	-1.66	0.0099	-2.34
0.0133	-2.02	0.0133	-4.16
0.0166	-1.99	0.0166	-4.77
0.02	-1.96	0.02	-4.66
0.0233	-1.9	0.0233	-4.64
0.0266	-1.86	0.0266	-4.44
0.03	-1.78	0.03	-4.3
0.0333	-1.66	0.0333	-4.06
0.05	-1.19	0.05	-2.93
0.0666	-0.76	0.0666	-1.91
0.0833	-0.46	0.0833	-1.16
0.1	-0.26	0.1	-0.67
0.1166	-0.14	0.1166	-0.38
0.1333	-0.06	0.1333	-0.2
0.15	-0.05	0.15	-0.12
0.1666	-0.03	0.1666	-0.07
0.1833	-0.02	0.1833	-0.05
0.2	-0.02	0.2	-0.03
0.2166	-0.02	0.2166	-0.03
0.2333	-0.02	0.2333	-0.02
0.25	-0.02	0.25	-0.02
0.2666	-0.02	0.2666	-0.02
0.2833	-0.02	0.2833	-0.02
0.3	-0.02	0.3	-0.02
0.3166	-0.02	0.3166	-0.02
0.3333	-0.02	0.3333	-0.02
0.4167	-0.01	0.4167	0
0.5	0	0.5	0
0.5833	0	0.5833	0
0.6667	0	0.6667	0
0.75	0	0.75	0
0.8333	0	0.8333	0
0.9167	0	0.9167	0
1	0	1	0
1.0833	0	1.0833	0
1.1667	0	1.1667	0
1.25	0	1.25	0
1.3333	0	1.3333	0
1.4166	0	1.4166	0
1.5	0	1.5	0
1.5833	0	1.5833	0
1.6667	0	1.6667	0
1.75	0	1.75	0
1.8333	0	1.8333	0
1.9167	0	1.9167	0
2	0	2	0
2.5	0.01	2.5	0
		3	0
		3.5	0
		4	0

HVORSLEV:

K = 0.007 CM/SEC

BOUWER AND RICE:

K = 0.033 CM/SEC

K = 0.008 CM/SEC

K = 0.044 CM/SEC

WELL TRANSFER=0.3106FT, SCREEN LENGTH=16FT, BORING DIAMETER=0.75FT

WELL LOM-39-01

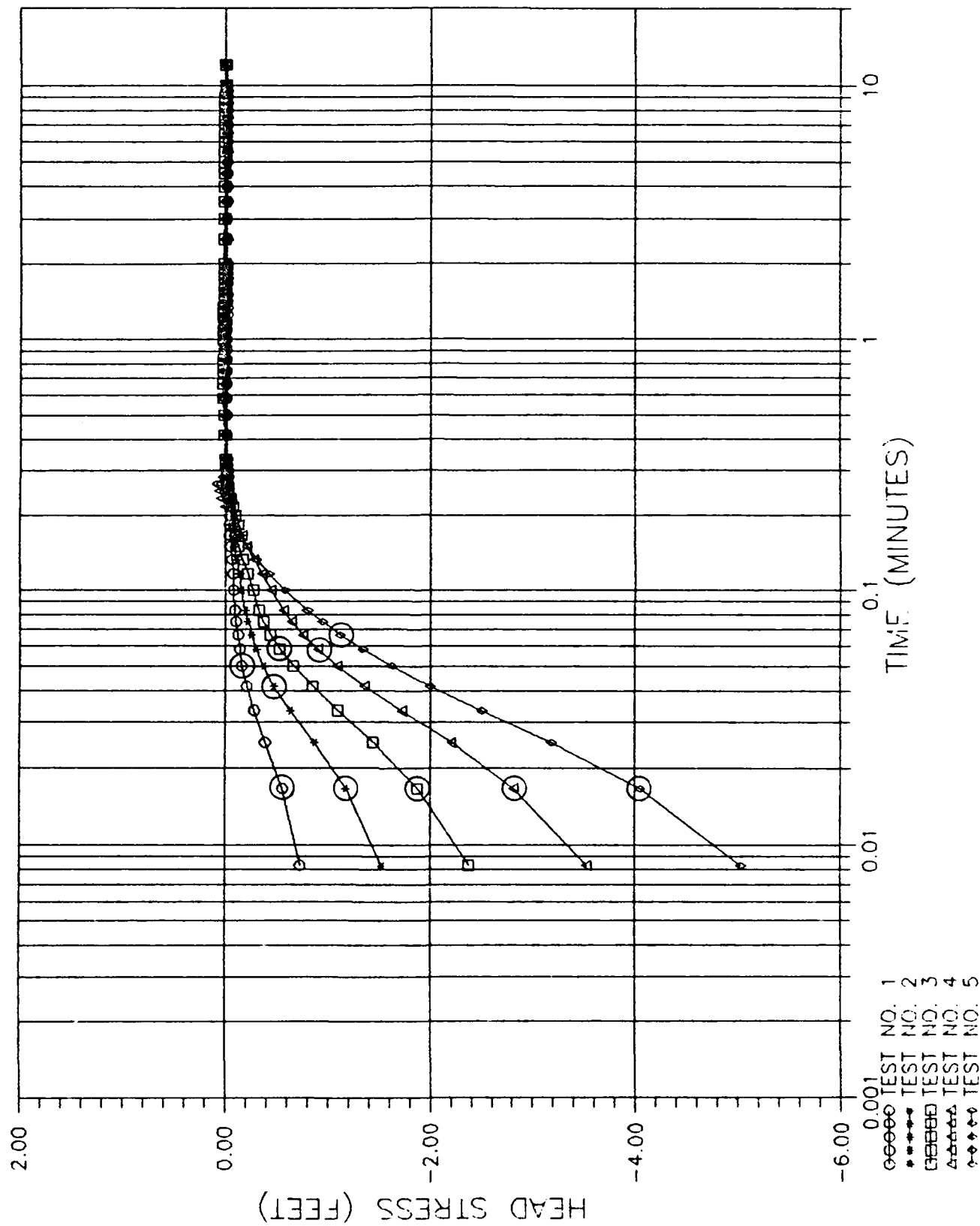
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.972	0.008	-1.029	0.008	-2.252
0.017	-0.644	0.017	-1.382	0.017	-1.287
0.025	-0.385	0.025	-1.018	0.025	-1.685
0.033	-0.245	0.033	-0.819	0.033	-1.470
0.042	-0.183	0.042	-0.417	0.042	-0.795
0.050	-0.139	0.050	-0.383	0.050	-0.442
0.058	-0.108	0.058	-0.228	0.058	-0.291
0.067	-0.080	0.067	-0.171	0.067	-0.209
0.075	-0.064	0.075	-0.133	0.075	-0.322
0.083	-0.051	0.083	-0.101	0.083	-0.423
0.100	-0.032	0.100	-0.064	0.100	-0.171
0.117	-0.019	0.117	-0.040	0.117	-0.025
0.133	-0.013	0.133	-0.020	0.133	-0.057
0.167	-0.007	0.150	-0.019	0.150	-0.038
0.667	0.000	0.183	-0.010	0.167	-0.028
0.750	0.000	0.300	-0.007	0.183	-0.013
0.833	0.000	0.750	0.000	0.217	-0.007
0.917	0.000	0.833	0.006	0.283	-0.013
1.000	0.000	0.917	0.000	0.300	-0.019
1.083	0.000	1.000	0.006	0.417	0.000
1.167	0.000	1.083	0.000	0.500	0.000
1.250	0.000	1.167	0.006	0.583	0.000
1.333	0.000	1.583	0.000	0.667	0.006
1.417	0.006	1.667	0.000	0.750	0.012
1.500	0.000	1.750	0.000	1.083	0.006
1.583	0.000	1.833	0.006	1.250	0.012
1.667	0.000			1.583	0.006
1.750	0.000			1.667	0.012
1.833	0.000			4.000	0.018
1.917	0.000				
2.000	0.000				
2.500	0.000				
3.000	0.000				

K=5.5E-2 CM/SEC

K=0.2E-2 CM/SEC

K=0.7E-2 CM/SEC

LON-89-02B



WELL LOG-88-008

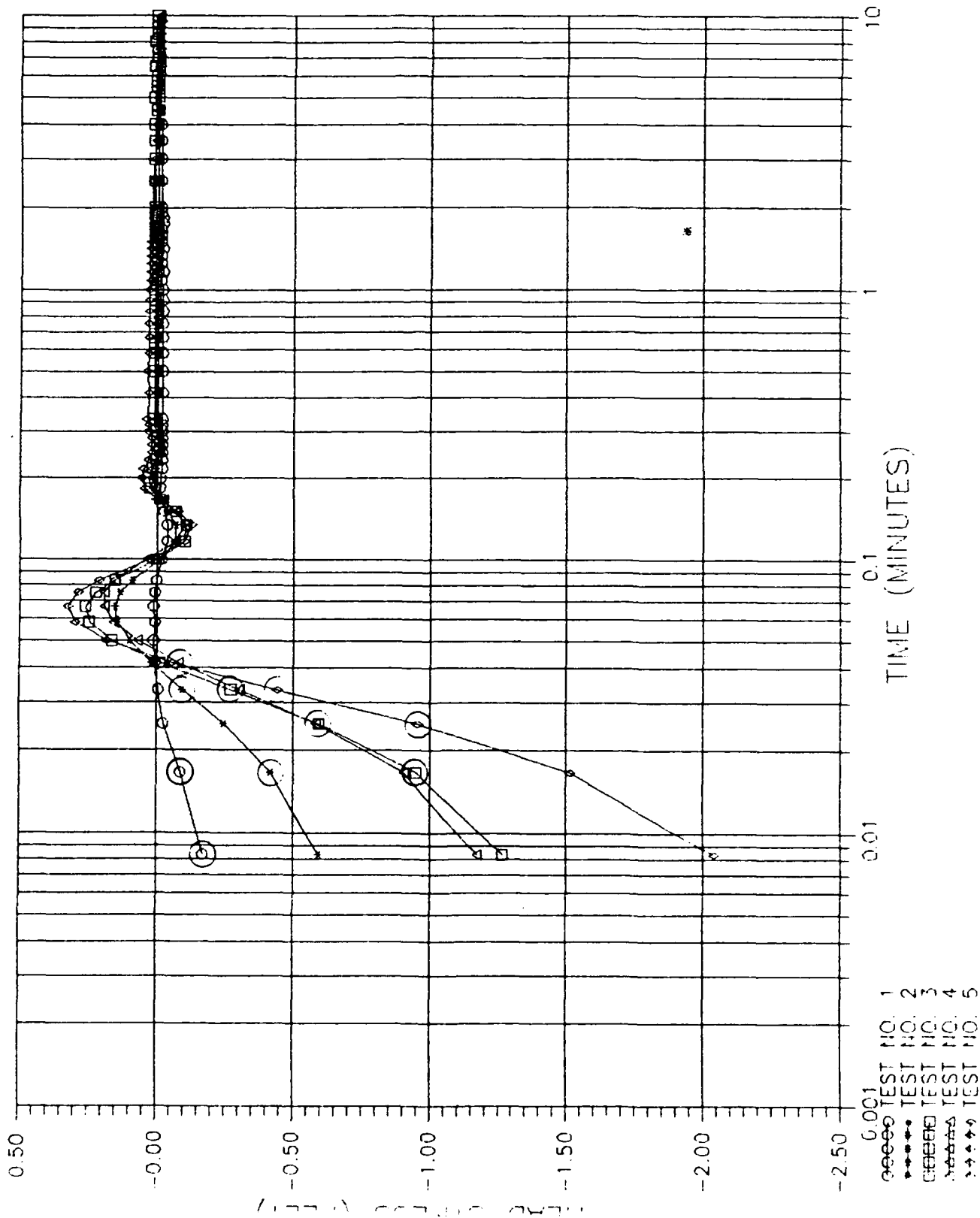
WELL DIAMETER: 0.01067 SCREEN LENGTH: 15.0 FT. BOPING DIAMETER: 7.5 FT.

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.735	0.008	-1.127	0.008	-0.330	0.008	-0.500	0.008	-0.030
0.017	-0.584	0.017	-1.178	0.017	-1.850	0.017	-0.820	0.017	-4.549
0.025	-0.392	0.025	-0.874	0.025	-1.444	0.025	-0.211	0.025	-3.187
0.033	-0.285	0.033	-0.640	0.033	-1.102	0.033	-1.730	0.033	-3.509
0.042	-0.209	0.042	-0.475	0.042	-0.855	0.042	-1.352	0.042	-0.002
0.050	-0.164	0.050	-0.373	0.050	-0.685	0.050	-1.095	0.050	-1.622
0.058	-0.145	0.058	-0.304	0.058	-0.532	0.058	-0.892	0.058	-1.343
0.067	-0.126	0.067	-0.259	0.067	-0.443	0.067	-0.754	0.067	-1.121
0.075	-0.107	0.075	-0.221	0.075	-0.373	0.075	-0.646	0.075	-0.950
0.083	-0.095	0.083	-0.196	0.083	-0.329	0.083	-0.570	0.083	-0.804
0.100	-0.081	0.100	-0.164	0.100	-0.272	0.100	-0.442	0.100	-0.583
0.117	-0.076	0.117	-0.139	0.117	-0.221	0.117	-0.354	0.117	-0.430
0.133	-0.069	0.133	-0.114	0.133	-0.171	0.133	-0.273	0.133	-0.310
0.150	-0.057	0.150	-0.088	0.150	-0.133	0.150	-0.216	0.150	-0.221
0.167	-0.044	0.167	-0.069	0.167	-0.101	0.167	-0.171	0.167	-0.145
0.200	-0.038	0.183	-0.057	0.183	-0.082	0.183	-0.130	0.183	-0.088
0.217	-0.031	0.200	-0.050	0.200	-0.057	0.200	-0.101	0.200	-0.038
0.250	-0.025	0.217	-0.038	0.217	-0.044	0.217	-0.078	0.217	0.000
0.317	-0.019	0.233	-0.031	0.233	-0.031	0.233	-0.057	0.233	0.031
0.417	-0.012	0.250	-0.025	0.250	-0.019	0.250	-0.038	0.250	0.357
1.050	-0.019	0.267	-0.019	0.267	-0.012	0.267	-0.025	0.267	0.032
1.583	-0.012	0.300	-0.012	0.300	-0.006	0.283	-0.012	0.233	0.025
1.667	-0.019	0.417	0.000	0.317	0.000	0.300	-0.006	0.300	-0.036
3.000	-0.012	1.833	-0.006	0.333	0.006	0.317	0.006	0.317	0.000
3.500	-0.019	1.917	0.000	0.417	0.012	0.333	-0.019	0.417	0.012
10.000	-0.012	3.500	-0.006	0.500	0.019	0.417	-0.036	0.500	0.019
				0.583	0.025	0.500	0.006	0.583	0.025
				0.917	0.019	1.417	0.000	0.667	0.019
				1.000	0.025	3.000	-0.006	0.750	0.025
				1.167	0.019	5.500	-0.012	1.250	0.019
				1.250	0.025			1.667	0.012
				1.417	0.019	K=4.0E-2 CM/SEC		2.500	0.006
				3.000	0.012			3.000	0.000
				9.500	0.006			5.000	-0.006

K=4.5E-2 CM/SEC

K=3.8E-2 CM/SEC

LON-89-03B

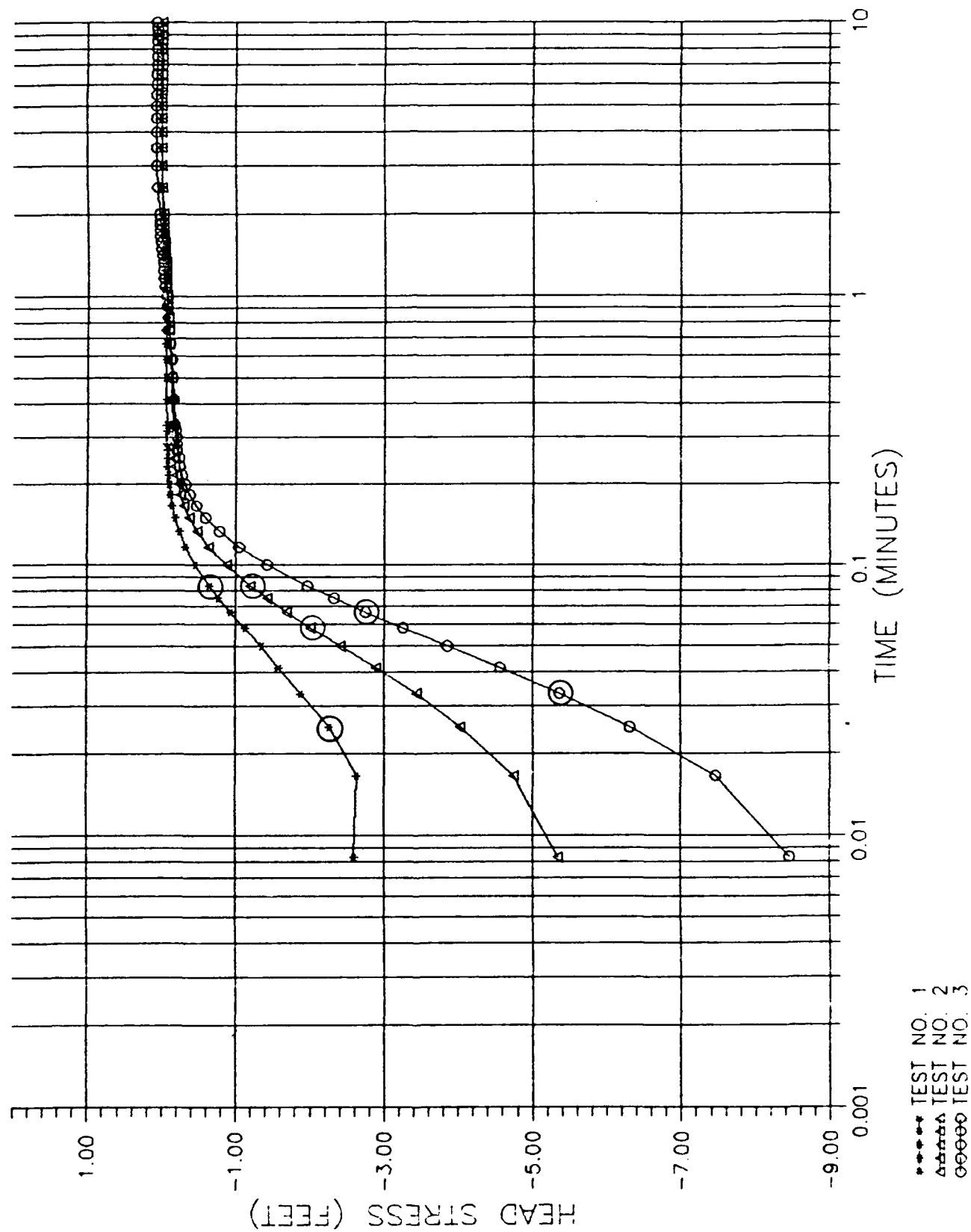


WELL LOG-89-008

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.76FT

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.171	0.008	-0.595	0.008	-1.257	0.008	-1.172	0.008	-2.049
0.017	-0.088	0.017	-0.418	0.017	-0.950	0.017	-0.906	0.017	-1.514
0.025	-0.025	0.025	-0.247	0.025	-0.595	0.025	-0.583	0.025	-0.956
0.033	-0.006	0.033	-0.095	0.033	-0.272	0.033	-0.304	0.033	-0.443
0.042	0.006	0.042	0.019	0.042	-0.012	0.042	-0.082	0.042	-0.057
0.050	0.012	0.050	0.101	0.050	0.164	0.050	0.069	0.050	0.183
0.058	0.006	0.058	0.145	0.058	0.247	0.058	0.158	0.058	0.297
0.067	0.012	0.067	0.152	0.067	0.259	0.067	0.190	0.067	0.323
0.075	0.006	0.075	0.133	0.075	0.221	0.083	0.152	0.075	0.285
0.083	0.000	0.083	0.088	0.083	0.152	0.100	0.038	0.083	0.209
0.100	-0.019	0.100	-0.012	0.100	-0.006	0.117	-0.069	0.100	0.025
0.117	-0.033	0.117	-0.059	0.117	-0.101	0.133	-0.101	0.117	-0.101
0.150	-0.025	0.150	-0.038	0.133	-0.107	0.150	-0.069	0.133	-0.126
0.167	-0.019	0.167	-0.012	0.150	-0.069	0.167	-0.025	0.150	-0.076
0.183	-0.012	0.183	0.012	0.167	-0.012	0.183	0.006	0.167	0.000
0.217	-0.019	0.217	0.006	0.183	0.025	0.200	0.019	0.183	0.044
1.083	-0.012	0.233	0.000	0.200	0.031	0.233	0.000	0.200	0.057
1.167	-0.019	0.250	-0.006	0.217	0.019	0.250	-0.006	0.217	0.050
1.250	-0.012	0.300	0.000	0.233	0.006	0.300	0.000	0.233	0.031
1.417	-0.019	0.333	0.006	0.250	-0.006	0.333	0.006	0.250	0.019
1.500	-0.012	0.417	0.000	0.283	0.000	1.500	0.000	0.300	0.031
1.750	-0.019	0.667	0.006	0.300	0.006	4.500	-0.006	0.333	0.033
1.917	-0.012	1.250	0.000	0.317	0.012	7.500	0.000	0.417	0.031
K=1.2E-1 CM/SEC		1.333	0.006	4.500	0.006	10.000	-0.006	0.500	0.033
		1.750	0.000	5.000	0.012			0.583	0.031
		1.917	0.006	5.500	0.006	K=1.8E-1 CM/SEC		1.083	0.025
		2.000	0.000	6.500	0.012			1.583	0.019
		8.500	0.006	7.000	0.006			3.000	0.012
				8.000	0.012			3.500	0.006
		K=1.3E-1 CM/SEC		8.500	0.006			4.500	0.000
				12.000	0.000			5.000	0.000
				14.000	-0.006			5.500	0.000
								6.000	0.000
			K=1.1E-1 CM/SEC				6.500	-0.006	
							9.500	-0.012	
							12.000	-0.006	
						</			

SPN-89-01C



WELL SPN-89-DIC
WELL DIAMETER=0.3125FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.75FT

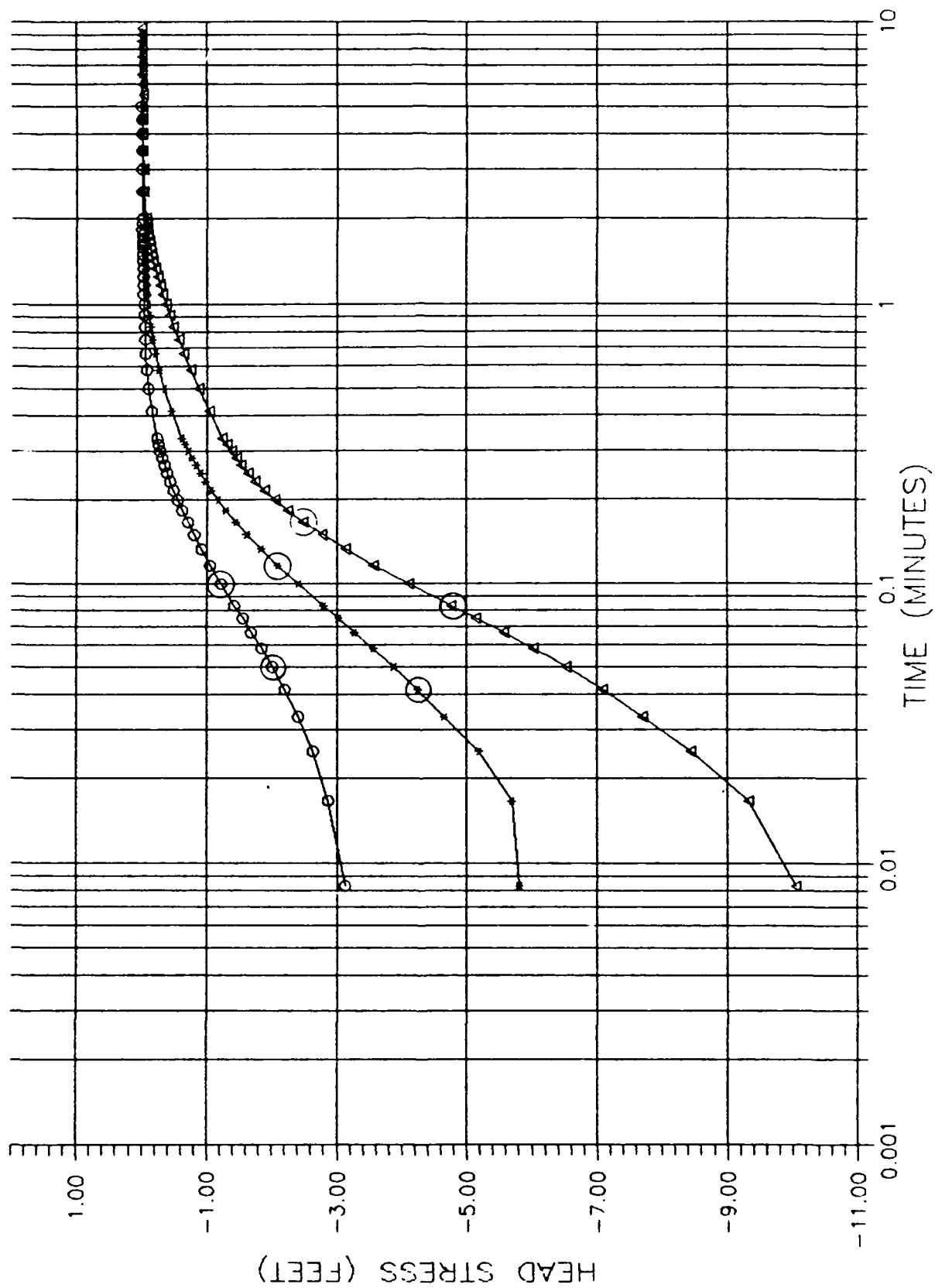
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-2.592	0.008	-5.335	0.008	-8.457
0.017	-2.630	0.017	-4.749	0.017	-7.461
0.025	-2.264	0.025	-4.023	0.025	-6.307
0.033	-1.879	0.033	-3.443	0.033	-5.367
0.042	-1.583	0.042	-2.901	0.042	-4.566
0.050	-1.356	0.050	-2.415	0.050	-3.859
0.058	-1.128	0.058	-2.011	0.058	-3.254
0.067	-0.927	0.067	-1.690	0.067	-2.749
0.075	-0.763	0.075	-1.431	0.075	-2.327
0.083	-0.643	0.083	-1.204	0.083	-1.967
0.100	-0.454	0.100	-0.870	0.100	-1.419
0.117	-0.321	0.117	-0.637	0.117	-1.046
0.133	-0.239	0.133	-0.479	0.133	-0.782
0.150	-0.176	0.150	-0.372	0.150	-0.586
0.167	-0.138	0.167	-0.296	0.167	-0.456
0.183	-0.113	0.183	-0.252	0.183	-0.378
0.200	-0.094	0.200	-0.214	0.200	-0.315
0.217	-0.088	0.217	-0.189	0.217	-0.271
0.233	-0.075	0.233	-0.176	0.233	-0.239
0.250	-0.069	0.250	-0.163	0.250	-0.227
0.283	-0.063	0.267	-0.151	0.267	-0.201
0.417	-0.056	0.300	-0.145	0.283	-0.189
0.500	-0.050	0.317	-0.138	0.317	-0.182
0.667	-0.044	0.417	-0.126	0.333	-0.170
0.917	-0.037	0.500	-0.119	0.417	-0.151
1.083	-0.031	0.583	-0.107	0.500	-0.138
1.167	-0.025	0.667	-0.100	0.583	-0.126
1.333	-0.018	0.750	-0.094	0.667	-0.107
1.500	-0.012	0.833	-0.081	0.750	-0.081
1.833	-0.006	0.917	-0.069	0.833	-0.075
2.500	0.000	1.083	-0.056	0.917	-0.056
3.000	-0.006	1.167	-0.050	1.000	-0.044
		1.333	-0.044	1.083	-0.031
		1.417	-0.037	1.167	-0.018
		1.500	-0.031	1.250	-0.012
		1.667	-0.025	1.333	-0.006
		1.750	-0.018	1.417	0.000
		1.833	-0.025	1.500	0.012
		2.000	-0.018	1.583	0.018
		2.500	0.000	1.667	0.025
		3.000	0.006	1.750	0.031
		3.500	0.000	1.917	0.037
				2.500	0.056
				3.000	0.069
				10.000	0.075
				11.000	0.083

K=4.1E-2 CM/SEC

K=3.9E-2 CM/SEC

K=3.8E-2 CM/SEC

SPN-89-02B



○ TEST NO. 1
● TEST NO. 2
△ TEST NO. 3

WELL GPN-89-005
WELL DIAMETER=0.3105FT, SCREEN LENGTH=19FT, BORING DIAMETER=0.75FT

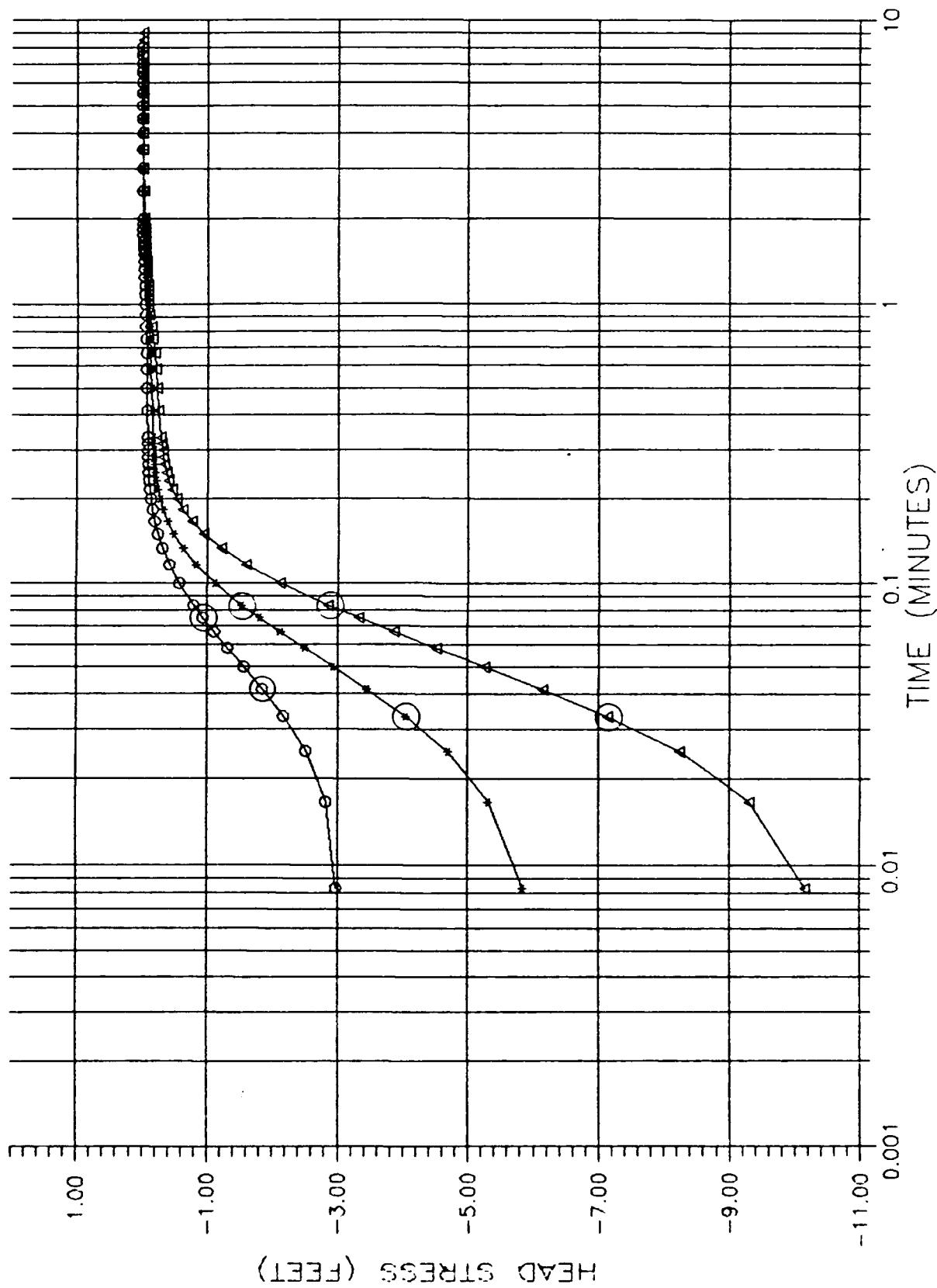
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-3.128	0.008	-5.808	0.008	0.053
0.017	-2.869	0.017	-5.695	0.017	-9.328
0.025	-2.636	0.025	-5.184	0.025	-8.457
0.033	-2.409	0.033	-4.654	0.033	-7.713
0.042	-2.201	0.042	-4.244	0.042	-7.101
0.050	-2.011	0.050	-3.878	0.050	-6.540
0.058	-1.847	0.058	-3.557	0.058	-6.029
0.067	-1.684	0.067	-3.273	0.067	-5.569
0.075	-1.557	0.075	-3.027	0.075	-5.140
0.083	-1.425	0.083	-2.794	0.083	-4.768
0.100	-1.217	0.100	-2.409	0.100	-4.112
0.117	-1.053	0.117	-2.093	0.117	-3.569
0.133	-0.914	0.133	-1.835	0.133	-3.134
0.150	-0.801	0.150	-1.614	0.150	-2.781
0.167	-0.706	0.167	-1.444	0.167	-2.491
0.183	-0.618	0.183	-1.292	0.183	-2.251
0.200	-0.548	0.200	-1.173	0.200	-2.049
0.217	-0.485	0.217	-1.065	0.217	-1.885
0.233	-0.428	0.233	-0.977	0.233	-1.747
0.250	-0.384	0.250	-0.901	0.250	-1.627
0.267	-0.346	0.267	-0.832	0.267	-1.532
0.283	-0.309	0.283	-0.769	0.283	-1.444
0.300	-0.277	0.300	-0.712	0.300	-1.374
0.317	-0.245	0.317	-0.662	0.317	-1.305
0.333	-0.227	0.333	-0.611	0.333	-1.242
0.417	-0.145	0.417	-0.454	0.417	-1.040
0.500	-0.094	0.500	-0.340	0.500	-0.876
0.583	-0.069	0.583	-0.258	0.583	-0.750
0.667	-0.050	0.667	-0.201	0.667	-0.643
0.750	-0.044	0.750	-0.157	0.750	-0.561
0.833	-0.037	0.833	-0.126	0.833	-0.485
0.917	-0.031	0.917	-0.107	0.917	-0.422
1.083	-0.025	1.000	-0.088	1.000	-0.372
1.167	-0.018	1.083	-0.075	1.083	-0.315
1.417	-0.012	1.167	-0.069	1.167	-0.277
1.833	-0.006	1.250	-0.056	1.250	-0.239
3.000	0.000	1.333	-0.050	1.333	-0.214
5.000	0.006	1.417	-0.044	1.417	-0.176
		1.583	-0.037	1.500	-0.157
		1.667	-0.031	1.583	-0.132
		1.917	-0.025	1.667	-0.113
		2.500	-0.018	1.750	-0.100
		3.000	-0.012	1.833	-0.088
		3.500	-0.006	1.917	-0.075
		5.000	-0.012	2.000	-0.069
		6.500	-0.006	2.500	-0.031
				3.000	-0.018
				3.500	-0.012
				5.500	-0.018
				6.000	-0.012
				6.500	-0.006
				7.000	-0.012
				7.500	-0.006
				8.500	-0.012
				9.000	-0.006
				9.500	-0.012

K=1.5E-2 CM/SEC

K=1.4E-2 CM/SEC

K=1.2E-2 CM/SEC

SPN-89-02C



○○○○ TEST NO. 1
 ×××× TEST NO. 2
 △△△△ TEST NO. 3

WELL SPN-89-02C
WELL DIAMETER=0.3125FT, SCREEN LENGTH=13FT, BORING DIAMETER=0.75FT

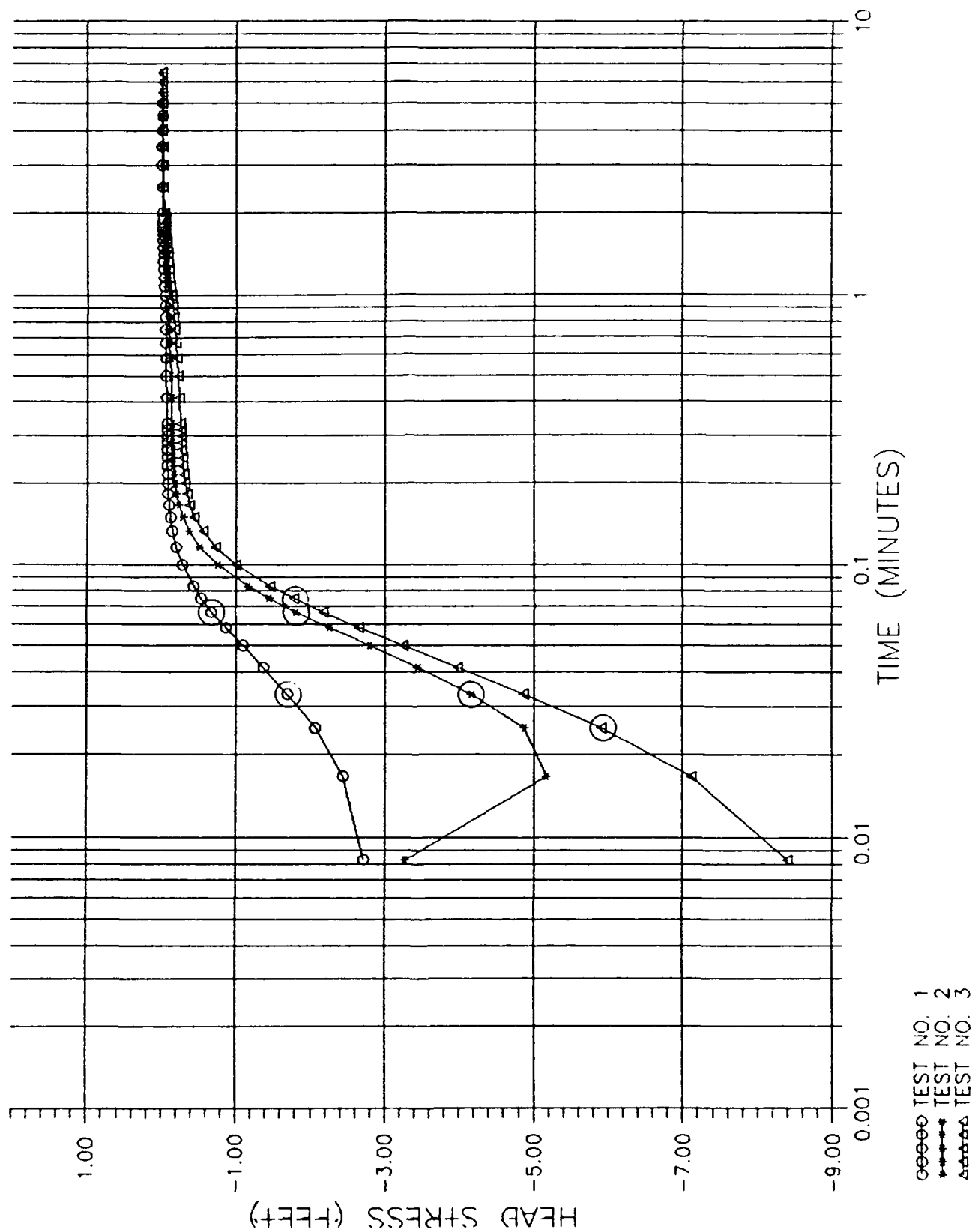
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-2.976	0.008	-5.840	0.008	0.173
0.017	-2.825	0.017	-5.316	0.017	-9.321
0.025	-2.510	0.025	-4.698	0.025	-8.243
0.033	-2.169	0.033	-4.649	0.033	-7.152
0.042	-1.847	0.042	-3.450	0.042	-6.149
0.050	-1.564	0.050	-2.932	0.050	-5.272
0.058	-1.318	0.058	-2.497	0.058	-4.522
0.067	-1.110	0.067	-2.125	0.067	-3.878
0.075	-0.939	0.075	-1.803	0.075	-3.330
0.083	-0.794	0.083	-1.532	0.083	-2.863
0.100	-0.573	0.100	-1.122	0.100	-2.125
0.117	-0.416	0.117	-0.826	0.117	-1.602
0.133	-0.309	0.133	-0.630	0.133	-1.223
0.150	-0.239	0.150	-0.485	0.150	-0.952
0.167	-0.189	0.167	-0.391	0.167	-0.763
0.183	-0.157	0.183	-0.321	0.183	-0.624
0.200	-0.132	0.200	-0.277	0.200	-0.529
0.217	-0.113	0.217	-0.239	0.217	-0.460
0.233	-0.100	0.233	-0.214	0.233	-0.409
0.250	-0.094	0.250	-0.201	0.250	-0.372
0.267	-0.088	0.267	-0.182	0.267	-0.340
0.283	-0.081	0.283	-0.170	0.283	-0.321
0.333	-0.075	0.317	-0.157	0.300	-0.309
0.417	-0.069	0.417	-0.145	0.317	-0.296
0.500	-0.063	0.500	-0.132	0.333	-0.283
0.583	-0.056	0.583	-0.119	0.417	-0.252
0.750	-0.050	0.750	-0.100	0.500	-0.227
0.833	-0.044	0.833	-0.094	0.583	-0.208
0.917	-0.037	0.917	-0.081	0.667	-0.195
1.000	-0.031	1.000	-0.075	0.750	-0.157
1.250	-0.025	1.083	-0.069	0.833	-0.126
1.417	-0.018	1.167	-0.063	0.917	-0.100
1.583	-0.012	1.250	-0.056	1.000	-0.088
1.750	-0.006	1.333	-0.050	1.083	-0.081
2.500	0.000	1.417	-0.044	1.167	-0.075
4.500	0.006	1.583	-0.037	1.250	-0.069
		1.750	-0.031	1.333	-0.063
		1.833	-0.025	1.417	-0.056
		2.500	-0.012	1.500	-0.050
		3.000	-0.006	1.667	-0.044
		3.500	0.000	1.750	-0.037
		4.000	-0.006	1.917	-0.031
				2.500	-0.018
				3.000	-0.012
				4.500	-0.006

K=3.4E-2 CM/SEC

K=3.2E-2 CM/SEC

K=3.0E-2 CM/SEC

SPN-89-03B



WELL SPN-89-03B
WELL DIAMETER=0.3155FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.75FT

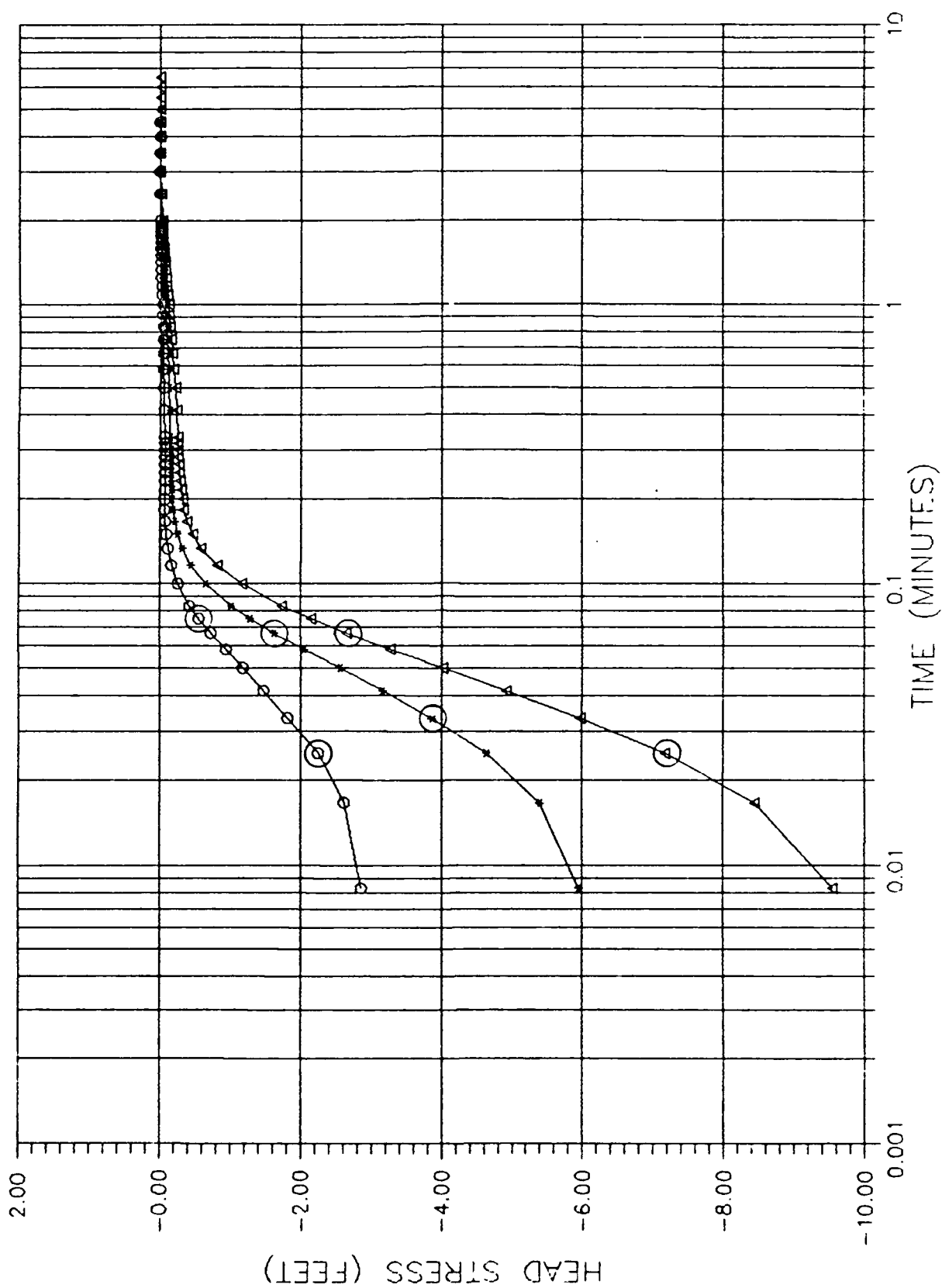
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-2.718	0.008	-3.273	0.008	-8.401
0.017	-2.440	0.017	-5.171	0.017	-7.120
0.025	-2.062	0.025	-4.875	0.025	-5.909
0.033	-1.690	0.033	-4.162	0.033	-4.862
0.042	-1.368	0.042	-3.443	0.042	-3.979
0.050	-1.097	0.050	-2.794	0.050	-3.254
0.058	-0.864	0.058	-2.251	0.058	-2.649
0.067	-0.674	0.067	-1.810	0.067	-2.169
0.075	-0.529	0.075	-1.444	0.075	-1.772
0.083	-0.428	0.083	-1.160	0.083	-1.456
0.100	-0.277	0.100	-0.756	0.100	-1.002
0.117	-0.189	0.117	-0.510	0.117	-0.725
0.133	-0.138	0.133	-0.365	0.133	-0.548
0.150	-0.113	0.150	-0.283	0.150	-0.441
0.167	-0.094	0.167	-0.227	0.167	-0.378
0.183	-0.081	0.183	-0.195	0.183	-0.334
0.217	-0.075	0.200	-0.176	0.200	-0.315
0.233	-0.069	0.217	-0.157	0.217	-0.296
0.417	-0.063	0.233	-0.151	0.233	-0.283
0.500	-0.056	0.250	-0.145	0.250	-0.277
0.667	-0.050	0.283	-0.138	0.267	-0.271
0.833	-0.044	0.317	-0.132	0.283	-0.264
0.917	-0.037	0.417	-0.126	0.300	-0.258
1.083	-0.031	0.500	-0.119	0.333	-0.252
1.250	-0.025	0.583	-0.113	0.417	-0.239
1.333	-0.018	0.667	-0.100	0.500	-0.220
1.417	-0.025	0.750	-0.094	0.583	-0.201
1.500	-0.018	0.833	-0.088	0.667	-0.182
1.750	-0.012	0.917	-0.075	0.750	-0.170
2.000	-0.006	1.000	-0.069	0.833	-0.151
3.000	0.000	1.083	-0.063	0.917	-0.138
4.000	-0.006	1.167	-0.056	1.000	-0.126
		1.250	-0.050	1.083	-0.113
		1.333	-0.044	1.167	-0.100
		1.417	-0.037	1.250	-0.094
		1.583	-0.031	1.333	-0.088
		1.750	-0.025	1.417	-0.075
		1.917	-0.018	1.500	-0.069
		2.500	-0.012	1.583	-0.063
		3.500	-0.006	1.667	-0.056
		5.500	0.000	1.750	-0.050
		6.000	-0.006	1.917	-0.044
		6.500	0.000	2.000	-0.037
				2.500	-0.025
				3.000	-0.018
				4.000	-0.012
				6.000	-0.006
				6.500	-0.012

K=4.2E-2 CM/SEC

K=3.8E-2 CM/SEC

K=3.6E-2 CM/SEC

SPN-89-03C



○○○○○○ TEST NO. 1
 ***** TEST NO. 2
 ▲▲▲▲▲ TEST NO. 3

WELL SPN-89-03C
WELL DIAMETER=0.3125FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.75FT

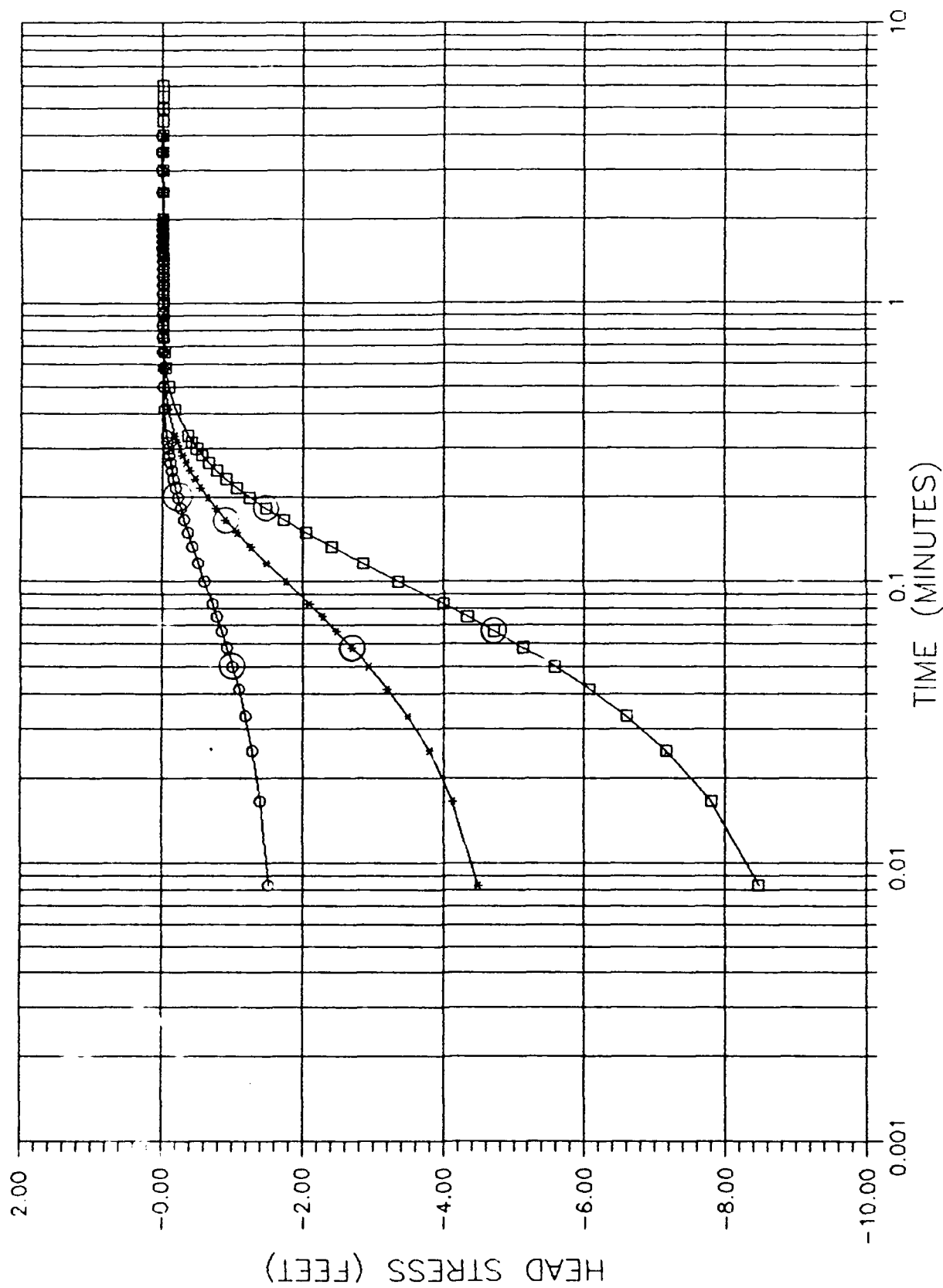
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-2.857	0.008	-5.947	0.008	-9.549
0.017	-2.617	0.017	-5.398	0.017	-8.445
0.025	-2.251	0.025	-4.642	0.025	-7.171
0.033	-1.816	0.033	-3.872	0.033	-5.979
0.042	-1.475	0.042	-3.166	0.042	-4.925
0.050	-1.179	0.050	-2.560	0.050	-4.023
0.058	-0.939	0.058	-2.049	0.058	-3.273
0.067	-0.731	0.067	-1.627	0.067	-2.655
0.075	-0.561	0.075	-1.286	0.075	-2.150
0.083	-0.428	0.083	-1.021	0.083	-1.747
0.100	-0.258	0.100	-0.655	0.100	-1.166
0.117	-0.163	0.117	-0.441	0.117	-0.813
0.133	-0.113	0.133	-0.321	0.133	-0.592
0.150	-0.088	0.150	-0.252	0.150	-0.466
0.167	-0.075	0.167	-0.214	0.167	-0.384
0.183	-0.069	0.183	-0.189	0.183	-0.340
0.217	-0.063	0.200	-0.176	0.200	-0.315
0.417	-0.056	0.217	-0.170	0.217	-0.296
0.500	-0.050	0.233	-0.163	0.233	-0.283
0.583	-0.044	0.250	-0.157	0.250	-0.271
0.750	-0.037	0.283	-0.151	0.267	-0.264
0.917	-0.031	0.317	-0.145	0.283	-0.258
1.083	-0.025	0.417	-0.138	0.317	-0.252
1.250	-0.018	0.500	-0.126	0.417	-0.233
1.500	-0.012	0.583	-0.113	0.500	-0.214
1.833	-0.006	0.667	-0.107	0.583	-0.195
2.500	0.000	0.750	-0.094	0.667	-0.176
4.000	-0.006	0.833	-0.088	0.750	-0.157
4.500	0.000	0.917	-0.075	0.833	-0.145
		1.000	-0.069	0.917	-0.126
		1.083	-0.063	1.000	-0.113
		1.167	-0.056	1.083	-0.107
		1.250	-0.044	1.167	-0.094
		1.417	-0.037	1.250	-0.081
		1.500	-0.031	1.333	-0.075
		1.583	-0.025	1.417	-0.063
		1.833	-0.018	1.500	-0.056
		2.000	-0.012	1.583	-0.050
		2.500	-0.006	1.667	-0.044
		3.000	0.000	1.750	-0.037
				1.833	-0.031
				2.500	-0.012
				3.000	-0.006
				4.500	0.000
				5.500	-0.006
				6.000	0.000

K=5.2E-2 CM/SEC

K=4.9E-2 CM/SEC

K=4.6E-2 CM/SEC

SPN-89-04B



ooooo TEST NO. 1
+-----+ TEST NO. 2
ooooo TEST NO. 3

WELL GPN-22-04E
WELL DIAMETER=6 INCHES SCREEN LENGTH=10FT. BORING DIAMETER=4 INCHES
TEST 1 TEST 2 TEST 3

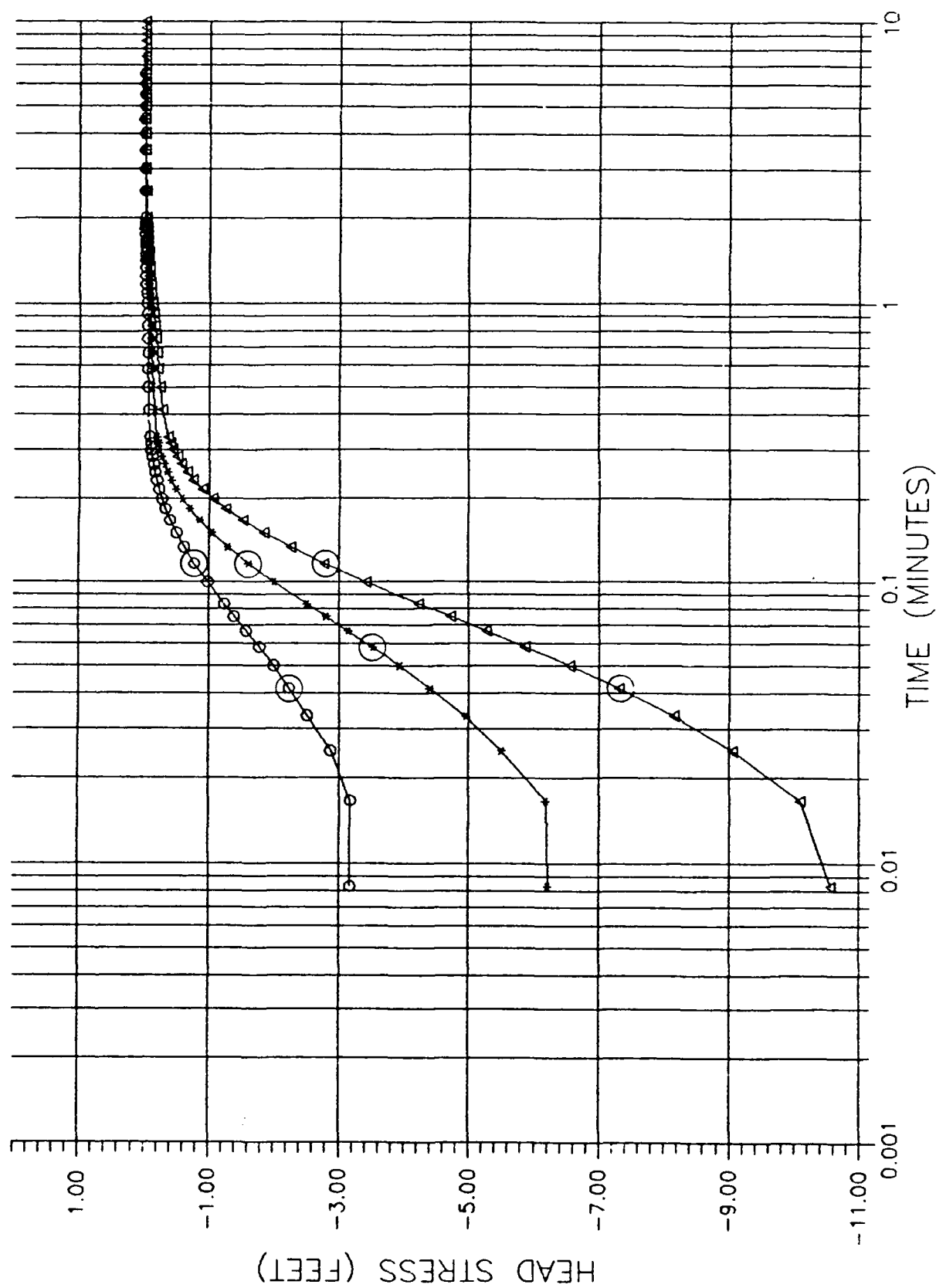
TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.006	-1.514	0.008	-4.493	0.006	-8.473
0.017	-1.499	0.017	-4.132	0.017	-7.891
0.025	-1.292	0.025	-3.898	0.025	-7.167
0.033	-1.191	0.033	-3.491	0.033	-6.537
0.042	-1.096	0.042	-3.200	0.042	-6.071
0.050	-1.007	0.050	-2.940	0.050	-5.583
0.058	-0.925	0.058	-2.699	0.058	-5.133
0.067	-0.842	0.067	-2.477	0.067	-4.721
0.075	-0.779	0.075	-2.275	0.075	-4.341
0.083	-0.716	0.083	-2.091	0.083	-3.992
0.100	-0.608	0.100	-1.763	0.100	-3.371
0.117	-0.513	0.117	-1.489	0.117	-2.858
0.133	-0.430	0.133	-1.261	0.133	-2.420
0.150	-0.367	0.150	-1.064	0.150	-2.047
0.167	-0.310	0.167	-0.899	0.167	-1.736
0.183	-0.266	0.183	-0.766	0.183	-1.476
0.200	-0.221	0.200	-0.646	0.200	-1.243
0.217	-0.190	0.217	-0.551	0.217	-1.064
0.233	-0.156	0.233	-0.468	0.233	-0.912
0.250	-0.133	0.250	-0.392	0.250	-0.773
0.267	-0.114	0.267	-0.335	0.267	-0.659
0.283	-0.095	0.283	-0.285	0.283	-0.564
0.300	-0.082	0.300	-0.247	0.300	-0.487
0.317	-0.069	0.317	-0.202	0.317	-0.418
0.333	-0.057	0.333	-0.171	0.333	-0.361
0.417	-0.025	0.417	-0.082	0.417	-0.183
0.500	-0.012	0.500	-0.031	0.500	-0.095
0.583	-0.006	0.583	-0.006	0.583	-0.044
0.667	0.000	0.667	0.000	0.667	-0.025
3.000	0.006	0.750	0.006	0.750	-0.019
		0.917	0.000	0.833	-0.012
		1.667	-0.006	1.000	-0.006
				1.250	-0.012
				1.333	-0.006
				1.500	-0.012
				1.750	-0.006
				1.833	-0.012
				3.000	-0.006
				3.500	-0.012
				4.500	-0.006
				5.000	-0.012
				5.500	-0.006

K=1.9E-2 CM/SEC

K=1.9E-2 CM/SEC

K=1.8E-2 CM/SEC

SPN-89-04C



00000 TEST NO. 1
x x x x x TEST NO. 2
Δ Δ Δ Δ Δ TEST NO. 3

WELL SPN-89-040

WELL DIAMETER=0.3125FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.75FT

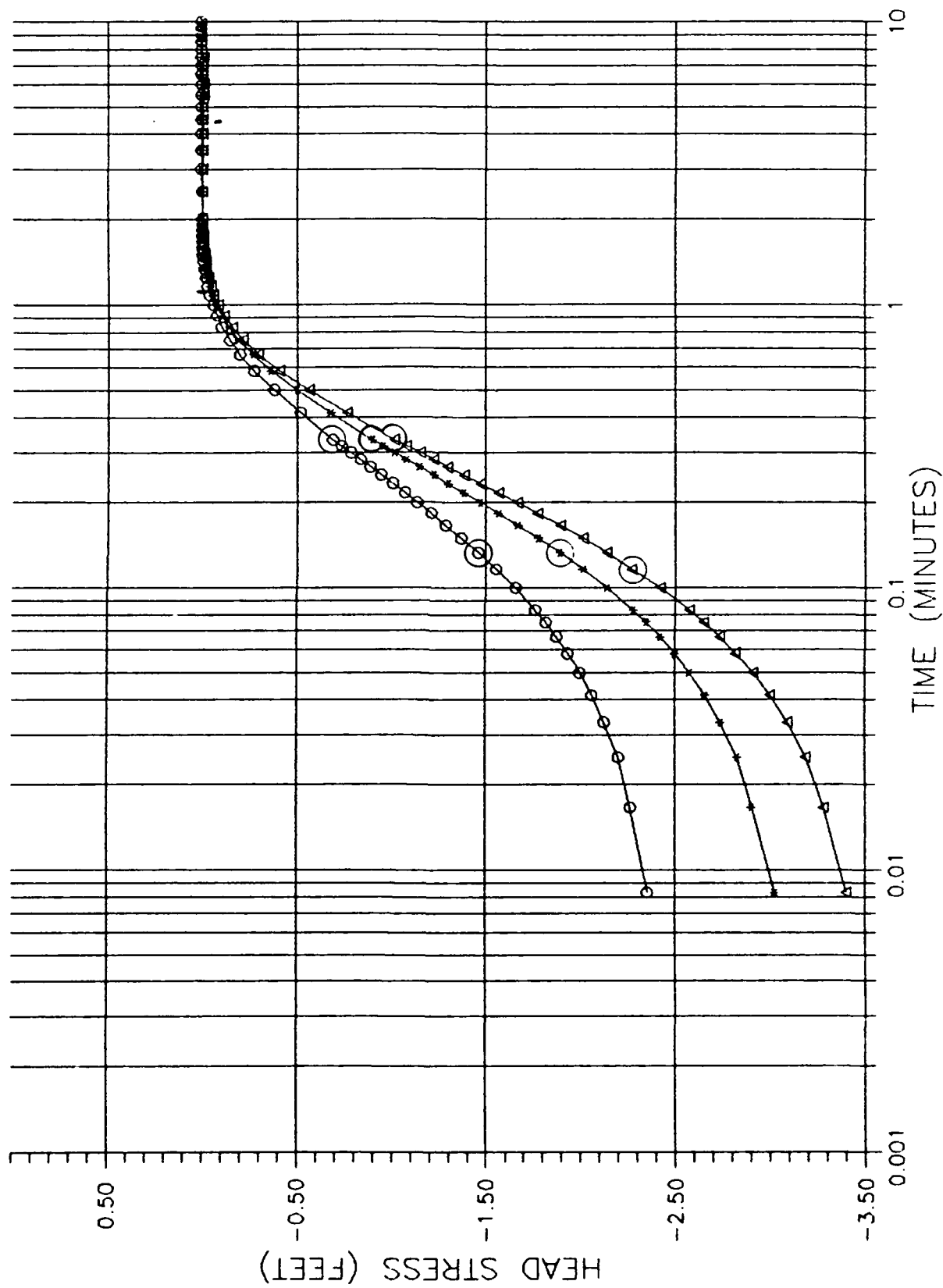
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-3.178	0.008	-6.218	0.008	-10.570
0.017	-3.172	0.017	-6.181	0.017	-10.085
0.025	-2.876	0.025	-5.506	0.025	-9.063
0.033	-2.516	0.033	-4.951	0.033	-8.155
0.042	-2.239	0.042	-4.396	0.042	-7.302
0.050	-1.999	0.050	-3.929	0.050	-6.546
0.058	-1.778	0.058	-3.519	0.058	-5.871
0.067	-1.576	0.067	-3.140	0.067	-5.266
0.075	-1.393	0.075	-2.812	0.075	-4.717
0.083	-1.242	0.083	-2.516	0.083	-4.238
0.100	-0.983	0.100	-2.005	0.100	-3.424
0.117	-0.775	0.117	-1.614	0.117	-2.781
0.133	-0.618	0.133	-1.292	0.133	-2.264
0.150	-0.498	0.150	-1.046	0.150	-1.854
0.167	-0.397	0.167	-0.857	0.167	-1.520
0.183	-0.321	0.183	-0.700	0.183	-1.261
0.200	-0.264	0.200	-0.580	0.200	-1.053
0.217	-0.220	0.217	-0.485	0.217	-0.889
0.233	-0.189	0.233	-0.409	0.233	-0.756
0.250	-0.157	0.250	-0.353	0.250	-0.649
0.267	-0.138	0.267	-0.309	0.267	-0.567
0.283	-0.119	0.283	-0.271	0.283	-0.504
0.300	-0.107	0.300	-0.239	0.300	-0.447
0.317	-0.100	0.317	-0.220	0.317	-0.409
0.333	-0.088	0.333	-0.195	0.333	-0.372
0.417	-0.069	0.417	-0.157	0.417	-0.283
0.500	-0.056	0.500	-0.126	0.500	-0.233
0.583	-0.050	0.583	-0.113	0.583	-0.201
0.750	-0.044	0.667	-0.100	0.667	-0.182
0.833	-0.037	0.750	-0.088	0.750	-0.163
1.000	-0.031	0.833	-0.081	0.833	-0.145
1.167	-0.025	0.917	-0.075	0.917	-0.132
1.333	-0.018	1.000	-0.063	1.000	-0.119
1.500	-0.012	1.083	-0.056	1.083	-0.100
1.750	-0.006	1.167	-0.050	1.167	-0.094
2.500	0.000	1.250	-0.044	1.250	-0.081
		1.417	-0.037	1.333	-0.075
		1.500	-0.031	1.417	-0.063
		1.667	-0.025	1.500	-0.056
		1.833	-0.018	1.583	-0.050
		2.000	-0.012	1.667	-0.044
		2.500	-0.006	1.833	-0.037
		3.500	0.000	1.917	-0.031
				2.000	-0.025
				2.500	-0.018
				3.000	-0.012
				3.500	-0.006
				4.000	0.000
				4.500	-0.006
				5.000	0.000

K=2.6E-2 CM/SEC

K=2.5E-2 CM/SEC

K=2.4E-2 CM/SEC

S1103



WELL 61103
WELL DIAMETER=0.3108FT. SCREEN LENGTH=10FT. BORING DIAMETER=0.75FT
TEST 1 TEST 2 TEST 3

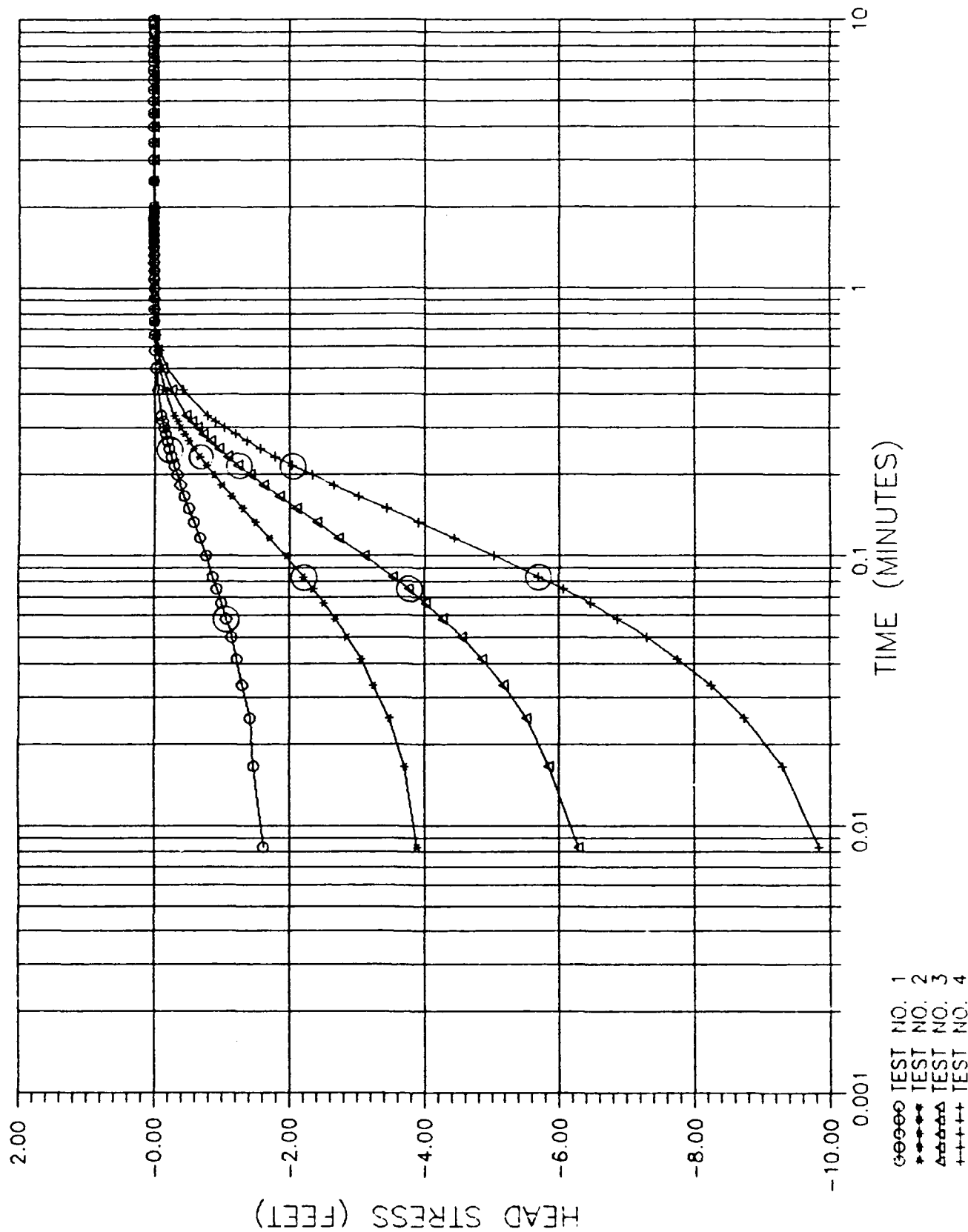
TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.008	-2.351	0.008	-3.022	0.008	-3.396
0.017	-2.262	0.017	-2.962	0.017	-3.292
0.025	-2.199	0.025	-2.826	0.025	-3.187
0.033	-2.123	0.033	-2.737	0.033	-3.092
0.042	-2.059	0.042	-2.655	0.042	-2.997
0.050	-1.996	0.050	-2.573	0.050	-2.908
0.058	-1.932	0.058	-2.497	0.058	-2.820
0.067	-1.875	0.067	-2.420	0.067	-2.737
0.075	-1.818	0.075	-2.344	0.075	-2.649
0.083	-1.761	0.083	-2.275	0.083	-2.573
0.100	-1.654	0.100	-2.135	0.100	-2.414
0.117	-1.552	0.117	-2.009	0.117	-2.266
0.133	-1.457	0.133	-1.888	0.133	-2.135
0.150	-1.368	0.150	-1.774	0.150	-2.009
0.167	-1.286	0.167	-1.666	0.167	-1.888
0.183	-1.210	0.183	-1.565	0.183	-1.774
0.200	-1.134	0.200	-1.470	0.200	-1.666
0.217	-1.071	0.217	-1.381	0.217	-1.565
0.233	-1.007	0.233	-1.299	0.233	-1.470
0.250	-0.944	0.250	-1.223	0.250	-1.381
0.267	-0.887	0.267	-1.147	0.267	-1.299
0.283	-0.836	0.283	-1.077	0.283	-1.223
0.300	-0.785	0.300	-1.014	0.300	-1.153
0.317	-0.735	0.317	-0.956	0.317	-1.077
0.333	-0.690	0.333	-0.899	0.333	-1.014
0.417	-0.519	0.417	-0.678	0.417	-0.766
0.500	-0.380	0.500	-0.500	0.500	-0.564
0.583	-0.272	0.583	-0.361	0.583	-0.411
0.667	-0.196	0.667	-0.266	0.667	-0.297
0.750	-0.145	0.750	-0.190	0.750	-0.215
0.833	-0.101	0.833	-0.139	0.833	-0.153
0.917	-0.076	0.917	-0.101	0.917	-0.114
1.000	-0.057	1.000	-0.069	1.000	-0.082
1.083	-0.038	1.083	-0.050	1.083	-0.057
1.167	-0.025	1.167	-0.038	1.167	-0.044
1.250	-0.019	1.250	-0.025	1.250	-0.031
1.333	-0.012	1.333	-0.019	1.333	-0.019
1.417	-0.006	1.417	-0.012	1.500	-0.012
1.500	0.000	1.500	-0.006	1.583	-0.006
1.600	0.006	1.667	0.000	1.833	0.000
		2.000	0.006	5.500	-0.006
		10.000	0.000	6.500	0.000
				7.500	-0.006

$K=7.6E-3$ CM/SEC

$K=7.5E-3$ CM/SEC

$K=7.5E-3$ CM/SEC

S1106



WELL 31108

WELL DIAMETER=0.2125 FT, SCREEN LENGTH=10.5 FT, PUMPING DIAMETER=0.745 FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-1.616	0.008	-3.891	0.008	-6.274	0.008	-9.829
0.017	-1.476	0.017	-3.713	0.017	-5.836	0.017	-9.393
0.025	-1.419	0.025	-3.479	0.025	-5.513	0.025	-8.732
0.033	-1.305	0.033	-3.244	0.033	-5.171	0.033	-8.238
0.042	-1.223	0.042	-3.067	0.042	-4.854	0.042	-7.744
0.050	-1.153	0.050	-2.858	0.050	-4.563	0.050	-7.294
0.058	-1.071	0.058	-2.637	0.058	-4.277	0.058	-6.857
0.067	-1.001	0.067	-2.516	0.067	-4.018	0.067	-6.451
0.075	-0.937	0.075	-2.357	0.075	-3.770	0.075	-6.065
0.083	-0.874	0.083	-2.218	0.083	-3.536	0.083	-5.697
0.100	-0.766	0.100	-1.945	0.100	-3.111	0.100	-5.032
0.117	-0.671	0.117	-1.704	0.117	-2.731	0.117	-4.436
0.133	-0.583	0.133	-1.495	0.133	-2.401	0.133	-3.910
0.150	-0.507	0.150	-1.311	0.150	-2.110	0.150	-3.441
0.167	-0.443	0.167	-1.147	0.167	-1.850	0.167	-3.023
0.183	-0.386	0.183	-1.001	0.183	-1.622	0.183	-2.655
0.200	-0.335	0.200	-0.890	0.200	-1.419	0.200	-2.332
0.217	-0.291	0.217	-0.773	0.217	-1.242	0.217	-2.047
0.233	-0.253	0.233	-0.671	0.233	-1.083	0.233	-1.793
0.250	-0.215	0.250	-0.589	0.250	-0.950	0.250	-1.571
0.267	-0.190	0.267	-0.513	0.267	-0.830	0.267	-1.375
0.283	-0.164	0.283	-0.449	0.283	-0.722	0.283	-1.197
0.300	-0.139	0.300	-0.386	0.300	-0.633	0.300	-1.045
0.317	-0.120	0.317	-0.342	0.317	-0.551	0.317	-0.912
0.333	-0.101	0.333	-0.291	0.333	-0.475	0.333	-0.792
0.417	-0.050	0.417	-0.152	0.417	-0.247	0.417	-0.418
0.500	-0.012	0.500	-0.069	0.500	-0.114	0.500	-0.190
0.583	0.000	0.583	-0.031	0.583	-0.044	0.583	-0.076
0.667	0.006	0.667	-0.006	0.667	-0.006	0.667	-0.019
0.750	0.012	0.750	0.000	0.750	0.006	0.750	0.013
		0.833	0.006	0.833	0.019	0.833	0.028
		1.000	0.012	1.417	0.012	0.917	0.032
		1.083	0.006	1.933	0.006	1.250	0.028
		1.750	0.000	2.000	0.000	1.500	0.019
		6.000	-0.006			1.917	0.013
		8.000	0.000			3.000	0.007
		8.500	-0.006				
		10.000	0.000				

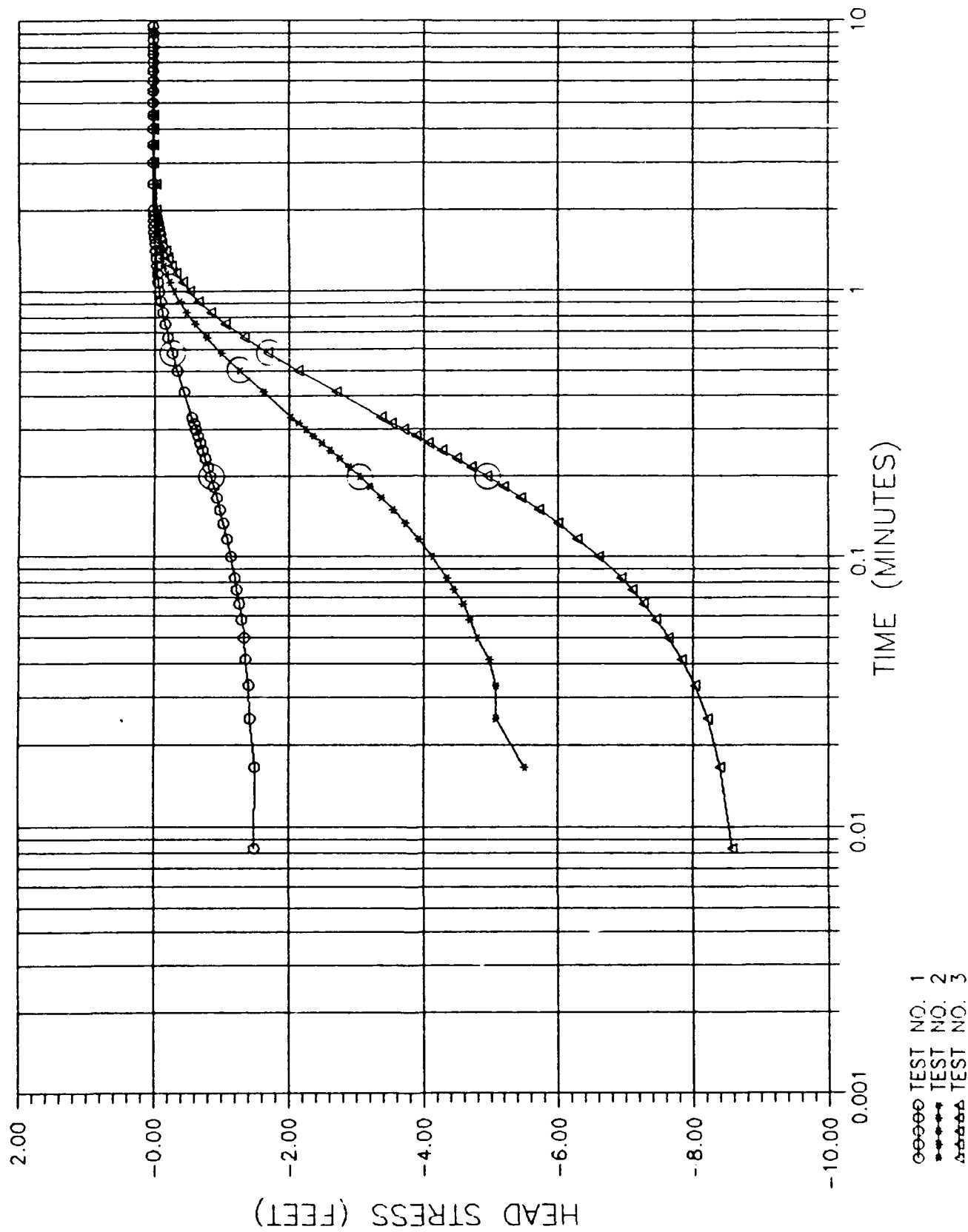
K=1.6E-2 CM/SEC

K=1.5E-2 CM/SEC

K=7.4E-3 CM/SEC

K=1.5E-2 CM/SEC

S1107



WELL 21117
WELL DIAMETER: 10.00 FT. SCREEN LENGTH: 10.00 FT. BOPING DIAMETER: 10.00 FT.
TEST 1 TEST 2 TEST 3

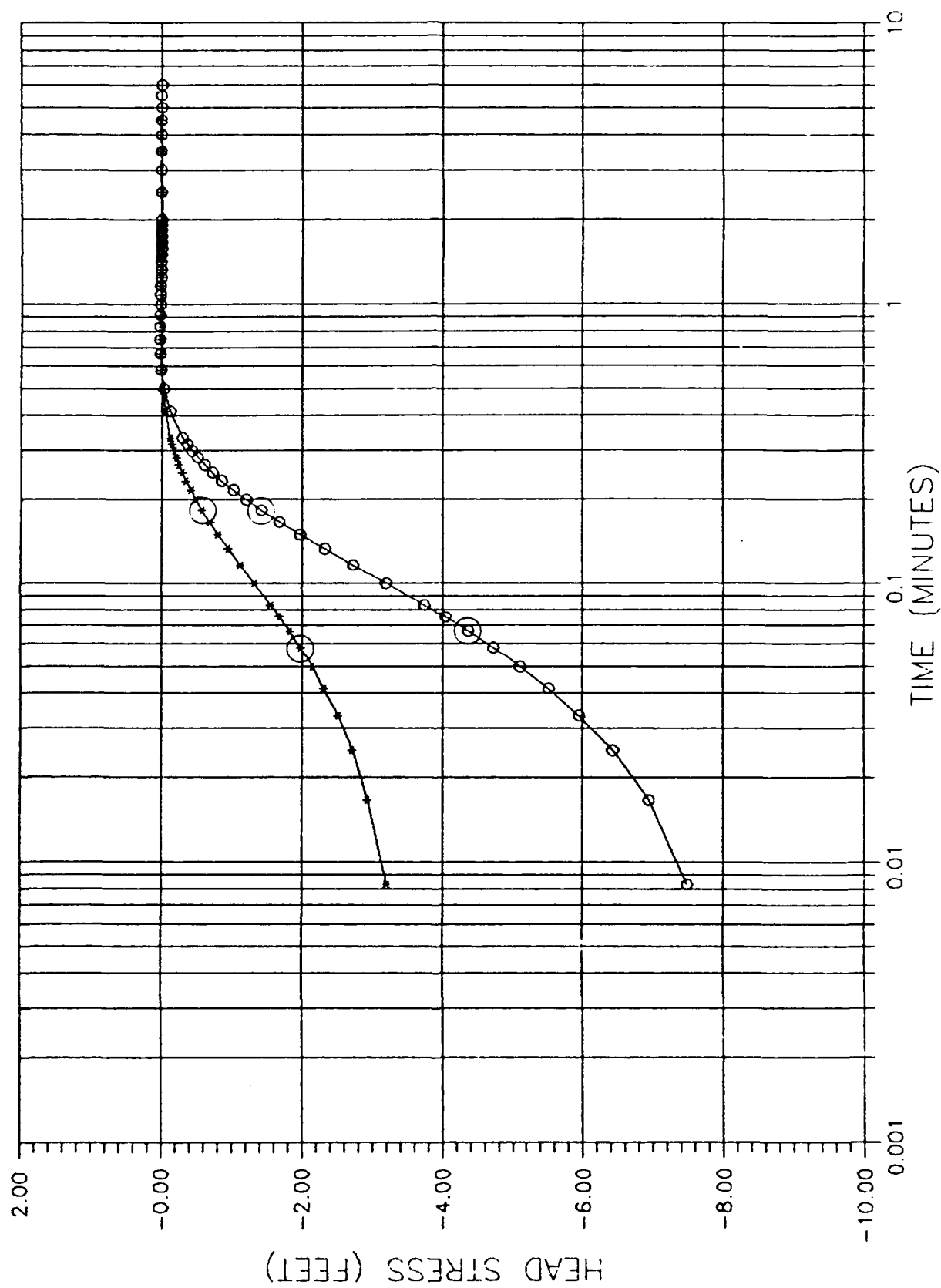
TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.008	-1.498	0.017	-5.501	0.008	-6.567
0.017	-1.502	0.025	-5.075	0.017	-8.237
0.025	-1.423	0.042	-4.981	0.025	-8.219
0.033	-1.413	0.050	-4.797	0.033	-9.023
0.042	-1.382	0.058	-4.689	0.042	-7.820
0.050	-1.337	0.067	-4.569	0.050	-7.624
0.058	-1.293	0.075	-4.455	0.058	-7.443
0.067	-1.267	0.083	-4.347	0.067	-7.262
0.075	-1.229	0.100	-4.132	0.075	-7.091
0.083	-1.197	0.117	-3.929	0.083	-6.920
0.100	-1.140	0.133	-3.732	0.100	-6.597
0.117	-1.083	0.150	-3.549	0.117	-6.293
0.133	-1.026	0.167	-3.371	0.133	-5.986
0.150	-0.975	0.183	-3.206	0.150	-5.703
0.167	-0.931	0.200	-3.042	0.167	-5.437
0.183	-0.880	0.217	-2.896	0.183	-5.184
0.200	-0.836	0.233	-2.756	0.200	-4.956
0.217	-0.798	0.250	-2.617	0.217	-4.708
0.233	-0.760	0.267	-2.490	0.233	-4.436
0.250	-0.716	0.283	-2.363	0.250	-4.277
0.267	-0.684	0.300	-2.249	0.267	-4.075
0.283	-0.646	0.317	-2.142	0.283	-3.884
0.300	-0.614	0.333	-2.034	0.300	-3.701
0.317	-0.589	0.417	-1.628	0.317	-3.530
0.333	-0.557	0.500	-1.273	0.333	-3.355
0.417	-0.443	0.583	-0.994	0.417	-2.712
0.500	-0.342	0.667	-0.773	0.500	-2.135
0.583	-0.266	0.750	-0.608	0.583	-1.635
0.667	-0.202	0.833	-0.475	0.667	-1.330
0.750	-0.158	0.917	-0.373	0.750	-1.052
0.833	-0.126	1.000	-0.291	0.833	-0.836
0.917	-0.095	1.083	-0.228	0.917	-0.659
1.000	-0.069	1.167	-0.177	1.000	-0.519
1.083	-0.050	1.250	-0.139	1.083	-0.411
1.167	-0.038	1.333	-0.107	1.167	-0.323
1.250	-0.031	1.417	-0.088	1.250	-0.259
1.333	-0.025	1.500	-0.069	1.333	-0.202
1.417	-0.012	1.583	-0.050	1.417	-0.164
1.583	-0.006	1.667	-0.044	1.500	-0.126
1.667	0.000	1.750	-0.031	1.583	-0.107
2.000	0.006	1.833	-0.025	1.667	-0.092
4.500	0.012	1.917	-0.019	1.750	-0.063
		2.000	-0.012	1.833	-0.050
		3.000	0.000	1.917	-0.044
		5.000	-0.006	2.000	-0.031
		6.500	0.000	3.000	-0.006
		7.000	-0.006		

K=3.6E-3 CM/SEC

K=3.4E-3 CM/SEC

K=3.5E-3 CM/SEC

S1114



TEST NO. 1
TEST NO. 2

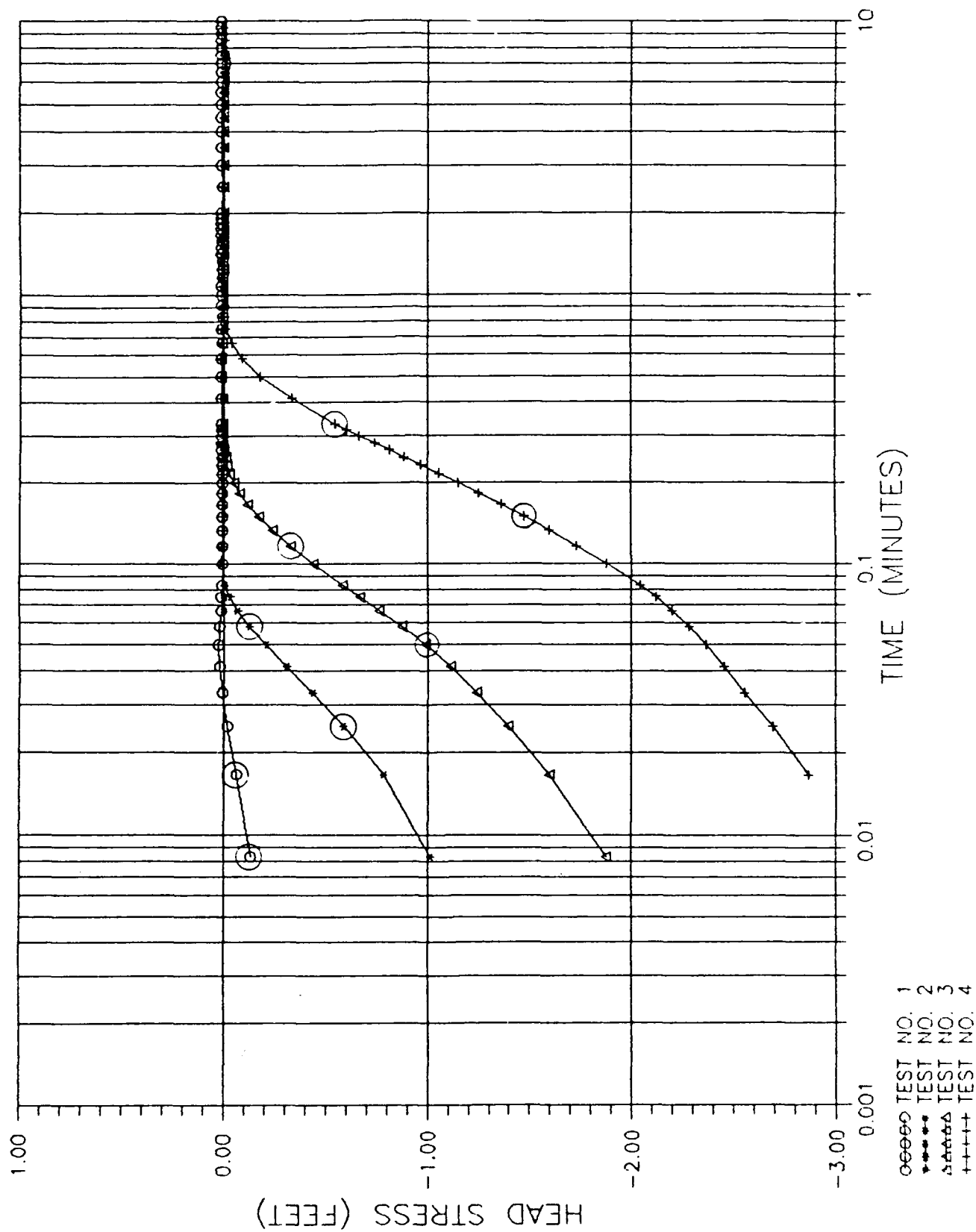
WELL 31114
WELL DIAMETER=0.3106FT. SCREEN LENGTH=10FT. BORE DIAMETER=0.70FT
TEST 1 TEST 2

TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.008	-2.206	0.008	-7.484
0.017	-2.934	0.017	-6.939
0.025	-2.718	0.025	-6.426
0.033	-2.518	0.033	-5.950
0.042	-2.313	0.042	-5.513
0.050	-2.149	0.050	-5.109
0.058	-1.977	0.058	-4.727
0.067	-1.831	0.067	-4.372
0.075	-1.685	0.075	-4.049
0.083	-1.552	0.083	-3.745
0.100	-1.324	0.100	-3.200
0.117	-1.121	0.117	-2.731
0.133	-0.950	0.133	-2.325
0.150	-0.804	0.150	-1.977
0.167	-0.690	0.167	-1.679
0.183	-0.576	0.183	-1.425
0.200	-0.487	0.200	-1.210
0.217	-0.418	0.217	-1.026
0.233	-0.348	0.233	-0.861
0.250	-0.291	0.250	-0.728
0.267	-0.247	0.267	-0.614
0.283	-0.209	0.283	-0.513
0.300	-0.177	0.300	-0.430
0.317	-0.145	0.317	-0.361
0.333	-0.120	0.333	-0.297
0.417	-0.050	0.417	-0.120
0.500	-0.012	0.500	-0.031
0.583	0.006	0.583	0.006
0.667	0.012	0.667	0.019
1.083	0.006	0.750	0.025
1.167	0.012	1.000	0.019
1.417	0.006	1.250	0.012
1.667	0.000	1.667	0.006
1.750	0.006	3.000	0.000
2.000	0.000	5.000	-0.000
2.500	0.000	5.500	0.000
3.500	0.000		

K=1.9E-2 CM/SEC

K=2.0E-2 CM/SEC

DBM-82-01

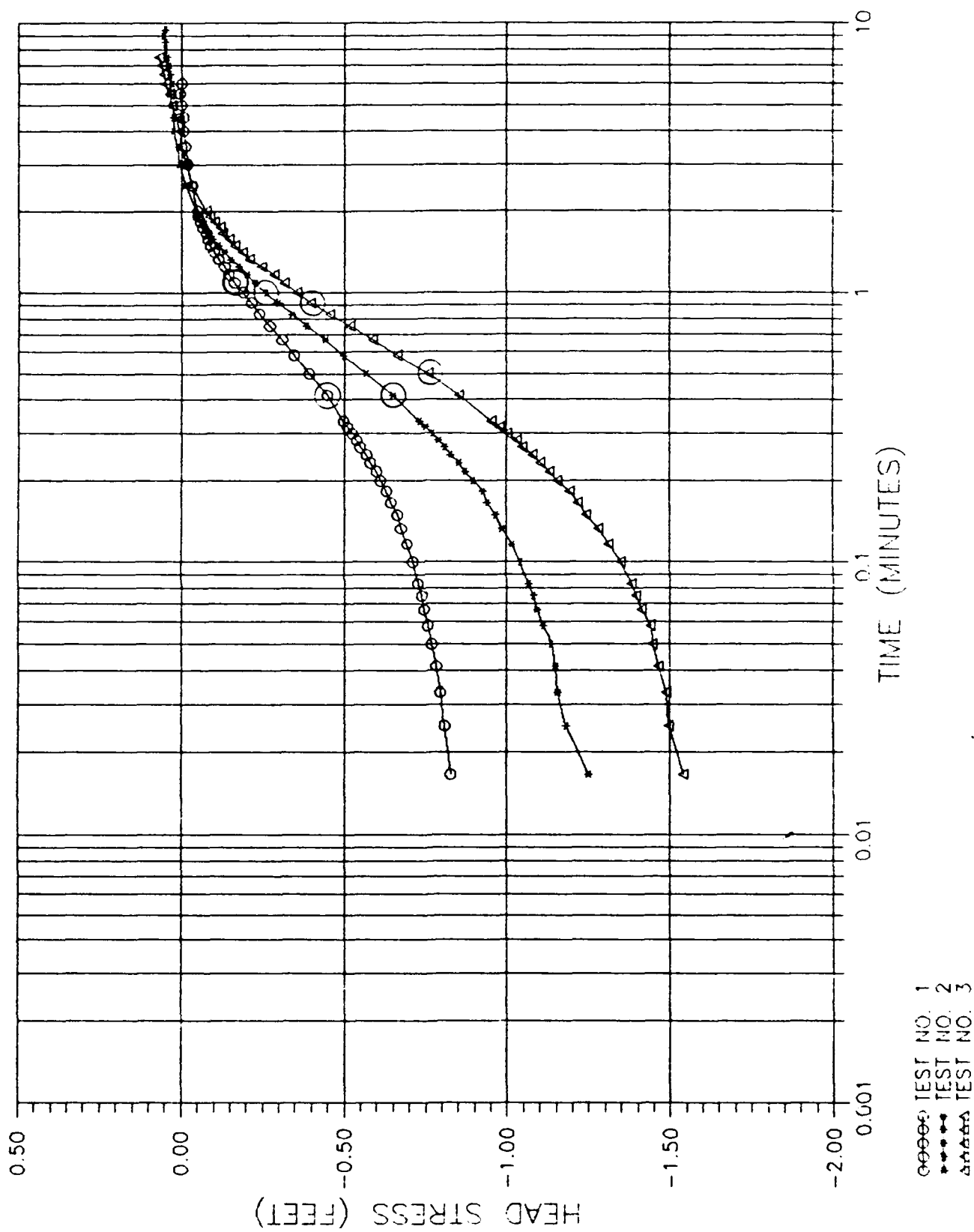


WELL DBM-02-01

WELL DIAMETER=0.125FT, SCREEN LENGTH=20FT, BOPING DIAMETER=0.125FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.133	0.008	-1.014	0.008	-1.878	0.017	-2.864
0.017	-0.063	0.017	-0.785	0.017	-1.597	0.025	-2.693
0.025	-0.016	0.025	-0.569	0.025	-1.400	0.033	-2.554
0.033	0.008	0.033	-0.437	0.033	-1.242	0.042	-2.461
0.042	0.019	0.042	-0.310	0.042	-1.115	0.050	-2.363
0.05	0.025	0.050	-0.209	0.050	-0.994	0.053	-2.231
0.053	0.019	0.053	-0.126	0.053	-0.874	0.067	-2.193
0.067	0.012	0.067	-0.069	0.067	-0.766	0.075	-2.123
0.073	0.006	0.075	-0.031	0.075	-0.671	0.083	-2.040
0.267	0.012	0.083	-0.006	0.083	-0.583	0.100	-1.875
0.667	0.006	0.100	0.012	0.100	-0.443	0.117	-1.730
0.750	0.012	0.117	0.006	0.117	-0.329	0.133	-1.597
0.833	0.006	0.133	0.000	0.133	-0.240	0.150	-1.476
0.917	0.012	0.150	0.000	0.150	-0.171	0.167	-1.362
1.167	0.006	0.167	0.000	0.167	-0.120	0.183	-1.254
1.417	0.012	0.183	0.000	0.183	-0.082	0.200	-1.152
1.583	0.006	0.200	0.000	0.200	-0.050	0.217	-1.058
1.667	0.012	1.250	0.000	0.217	-0.031	0.233	-0.969
2.500	0.006	1.333	0.000	0.233	-0.019	0.250	-0.887
3.000	0.012	1.417	0.000	0.250	-0.012	0.267	-0.811
K=1.1E-1 CM/SEC		1.500	0.000	0.267	0.000	0.283	-0.741
		1.583	0.006	0.283	0.006	0.300	-0.665
		1.667	0.000	0.500	0.012	0.317	-0.602
		1.750	0.000	0.667	0.000	0.333	-0.545
		1.833	0.000	1.250	0.000	0.417	-0.335
		1.917	0.000	1.333	0.006	0.500	-0.177
		2.000	0.000	1.417	0.000	0.583	-0.088
		2.500	0.000	1.500	0.000	0.667	-0.038
		3.000	0.000	1.583	0.000	0.750	-0.012
		3.500	0.000	1.667	0.000	0.833	0.000
		4.000	0.000	1.750	0.000	0.917	0.000
		4.500	0.000	1.833	0.000	1.000	0.006
		5.000	0.000	1.917	0.000	1.500	0.000
		5.500	-0.006	2.000	0.000	1.583	0.000
		K=5.7E-2 CM/SEC		2.500	0.000	1.667	0.000
				3.000	0.000	1.750	0.000
				3.500	0.000	1.833	0.000
				4.000	0.000	1.917	0.000
				4.500	0.000	2.000	0.000
				5.000	0.000	2.500	0.000
				5.500	0.000	3.000	0.000
				6.000	0.000	3.500	0.000
				6.500	0.000	4.000	0.000
				7.000	-0.006	4.500	0.000
				7.500	0.000	5.000	-0.006
				K=2.0E-2 CM/SEC		5.500	0.000
						6.000	0.000
						6.500	0.000
						7.000	0.000
				K=6.6E-3 CM/SEC			

DBM-89-01



WELL 18M-33-11

WELL DIAMETER: 11.0677, SURFACE LENGTH: 1.57, BURNING DIAMETER: 1.57

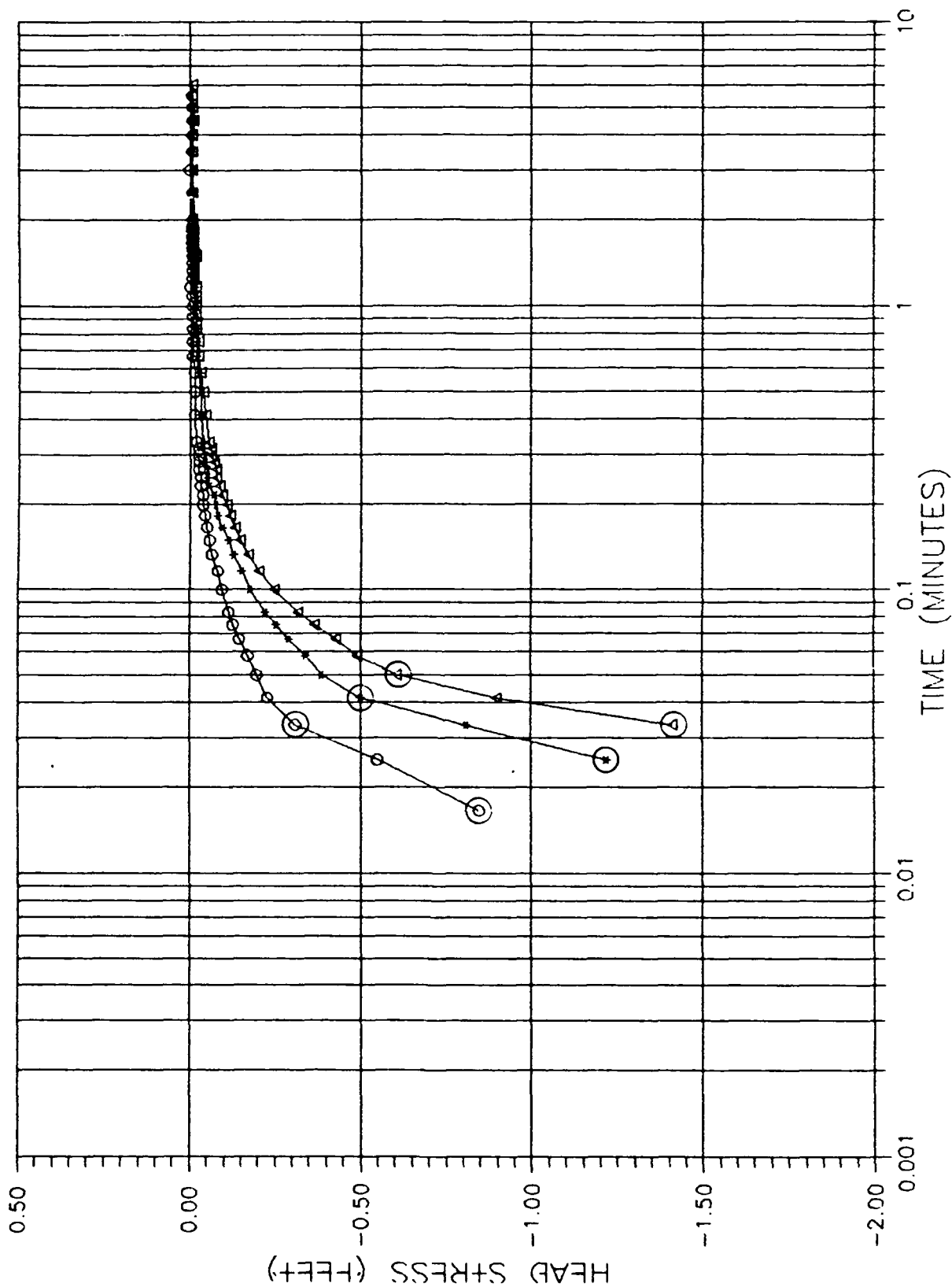
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.017	-0.827	0.017	-1.242	0.017	-1.539
0.025	-0.808	0.025	-1.183	0.025	-1.495
0.033	-0.795	0.033	-1.155	0.033	-1.489
0.042	-0.783	0.042	-1.142	0.042	-1.464
0.050	-0.776	0.050	-1.136	0.050	-1.445
0.058	-0.757	0.058	-1.111	0.058	-1.439
0.067	-0.745	0.067	-1.092	0.067	-1.413
0.075	-0.738	0.075	-1.079	0.075	-1.394
0.083	-0.726	0.083	-1.066	0.083	-1.382
0.100	-0.713	0.100	-1.041	0.100	-1.359
0.117	-0.694	0.117	-1.016	0.117	-1.312
0.133	-0.675	0.133	-0.934	0.133	-1.281
0.150	-0.653	0.150	-0.965	0.150	-1.243
0.167	-0.644	0.167	-0.940	0.167	-1.218
0.183	-0.631	0.183	-0.928	0.183	-1.193
0.200	-0.612	0.200	-0.896	0.200	-1.155
0.217	-0.606	0.217	-0.871	0.217	-1.129
0.233	-0.581	0.233	-0.852	0.233	-1.104
0.250	-0.568	0.250	-0.827	0.250	-1.079
0.267	-0.549	0.267	-0.806	0.267	-1.047
0.283	-0.537	0.283	-0.793	0.283	-1.029
0.300	-0.524	0.300	-0.773	0.300	-1.003
0.317	-0.511	0.317	-0.751	0.317	-0.978
0.333	-0.499	0.333	-0.732	0.333	-0.953
0.417	-0.449	0.417	-0.650	0.417	-0.852
0.500	-0.392	0.500	-0.568	0.500	-0.757
0.583	-0.347	0.583	-0.499	0.583	-0.663
0.667	-0.310	0.667	-0.442	0.667	-0.587
0.750	-0.272	0.750	-0.385	0.750	-0.518
0.833	-0.243	0.833	-0.341	0.833	-0.455
0.917	-0.215	0.917	-0.297	0.917	-0.396
1.000	-0.190	1.000	-0.259	1.000	-0.354
1.083	-0.164	1.083	-0.228	1.083	-0.316
1.167	-0.146	1.167	-0.202	1.167	-0.284
1.250	-0.123	1.250	-0.177	1.250	-0.246
1.333	-0.114	1.333	-0.152	1.333	-0.209
1.417	-0.101	1.417	-0.133	1.417	-0.190
1.500	-0.089	1.500	-0.114	1.500	-0.164
1.583	-0.082	1.583	-0.095	1.583	-0.146
1.667	-0.076	1.667	-0.082	1.667	-0.127
1.750	-0.064	1.750	-0.070	1.750	-0.120
1.833	-0.057	1.833	-0.064	1.833	-0.101
1.917	-0.051	1.917	-0.051	1.917	-0.089
2.000	-0.032	2.000	-0.045	2.000	-0.076
2.083	-0.019	2.083	-0.033	2.083	-0.051
2.167	-0.011	2.167	-0.026	2.167	-0.033
2.250	-0.007	2.250	-0.012	2.250	-0.007
2.333	0.000	2.333	0.025	2.333	0.006
2.417	0.000	2.417	0.031	2.417	0.018
2.500	0.006	2.500	0.037	2.500	0.031
2.583		2.583	0.031	2.583	0.037
2.667		2.667	0.037	2.667	0.050
2.750		2.750	0.044	2.750	0.056
2.833		2.833	0.050	2.833	0.063
2.917		2.917	0.056	2.917	0.069
3.000		3.000	0.061		

K=0.2E-3 CM/SEC

K=0.3E-3 CM/SEC

K=0.4E-3 CM/SEC

DBM-89-02A



○○○○ TEST NO. 1
 ■■■■ TEST NO. 2
 ▲▲▲▲ TEST NO. 3

WELL LEN-35-00A
WELL DIAMETER=0.015FT. SCREEN LENGTH=15FT. BOPING DIAMETER=0.75FT

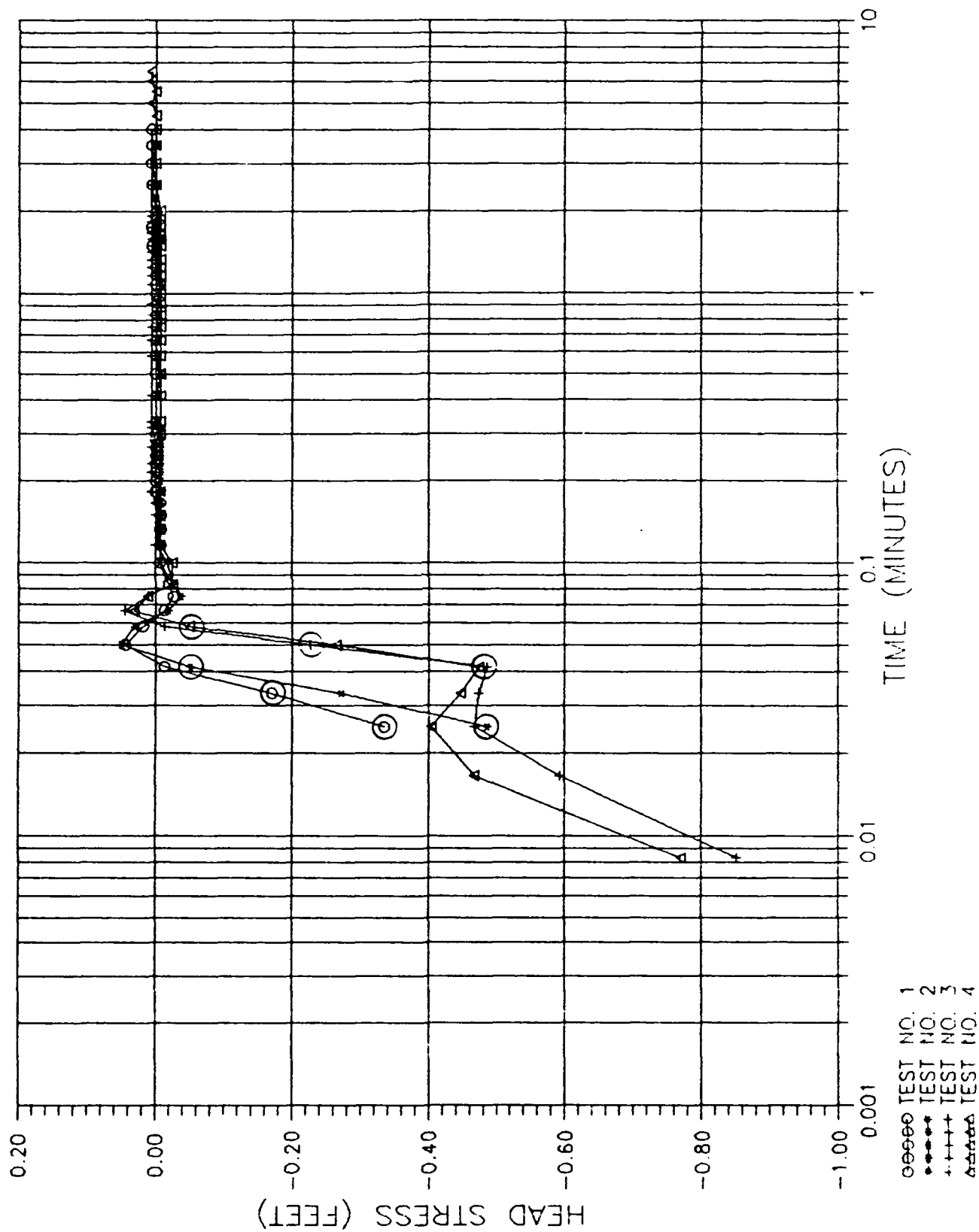
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.017	-0.846	0.025	-1.218	0.033	-1.413
0.025	-0.549	0.033	-0.808	0.042	-0.896
0.033	-0.310	0.042	-0.499	0.050	-0.606
0.042	-0.228	0.050	-0.385	0.058	-0.492
0.050	-0.196	0.058	-0.341	0.067	-0.429
0.058	-0.171	0.067	-0.291	0.075	-0.366
0.067	-0.146	0.075	-0.253	0.083	-0.316
0.075	-0.127	0.083	-0.221	0.100	-0.246
0.083	-0.114	0.100	-0.177	0.117	-0.202
0.100	-0.095	0.117	-0.152	0.133	-0.171
0.117	-0.082	0.133	-0.127	0.150	-0.146
0.133	-0.064	0.150	-0.114	0.167	-0.133
0.150	-0.057	0.167	-0.095	0.183	-0.120
0.167	-0.051	0.183	-0.082	0.200	-0.108
0.183	-0.045	0.200	-0.076	0.217	-0.095
0.200	-0.038	0.217	-0.070	0.233	-0.089
0.233	-0.032	0.233	-0.057	0.250	-0.076
0.267	-0.026	0.250	-0.051	0.263	-0.070
0.333	-0.019	0.283	-0.045	0.300	-0.064
0.417	-0.013	0.317	-0.038	0.333	-0.057
0.667	-0.007	0.417	-0.032	0.417	-0.045
1.167	0.000	0.583	-0.026	0.500	-0.036
1.250	-0.007	0.667	-0.019	0.583	-0.031
3.000	0.000	0.917	-0.013	0.667	-0.026
3.500	-0.007	1.000	-0.019	0.833	-0.019
		1.033	-0.013	1.250	-0.013
		1.500	-0.007	1.500	-0.019
		1.917	-0.013	1.583	-0.013
		2.500	-0.007	1.750	-0.007
				1.833	-0.013
				1.917	-0.007
				4.500	-0.013
				5.000	-0.007

9.1E-2 CM/SEC

K=8.1E-2 CM/SEC

K=7.7E-2 CM/SEC

DBM-89-03



•EOL 12M-19-00

WELL DIAMETER=11.125 FT. SCREEN LENGTH=16FT. BOREHOLE DIAMETER=4.0 FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.025	-0.335	0.025	-0.195	0.008	-0.555	0.008	-0.770
0.033	-0.171	0.033	-0.272	0.017	-0.590	0.017	-0.467
0.042	-0.013	0.042	-0.051	0.025	-0.467	0.025	-0.404
0.050	0.044	0.050	0.050	0.033	-0.474	0.033	-0.448
0.058	0.018	0.058	0.031	0.042	-0.486	0.042	-0.474
0.067	-0.013	0.067	-0.019	0.050	-0.228	0.050	-0.265
0.075	-0.026	0.075	-0.038	0.058	-0.013	0.058	-0.051
0.083	-0.019	0.083	-0.026	0.067	0.044	0.067	0.021
0.100	-0.007	0.100	-0.007	0.075	0.012	0.075	0.012
0.183	0.000	0.333	0.000	0.083	-0.026	0.083	-0.026
1.500	0.006	0.500	-0.007	0.100	-0.019	0.117	-0.007
1.583	0.000	0.583	0.000	0.117	0.000	0.167	0.000
1.750	0.006	1.000	-0.007	0.133	-0.007	0.150	-0.007
1.833	0.000	1.167	0.000	0.150	0.000	0.200	0.000
2.500	0.006	1.583	-0.007	0.183	0.006	0.217	0.000
		1.667	0.000	0.200	0.000	0.233	0.000
		3.000	0.006	0.217	0.006	0.250	0.000
		3.500	0.000	0.250	0.000	0.267	0.000
				0.267	0.006	0.283	0.000
				0.283	0.000	0.300	-0.007
				0.300	0.006	0.317	0.000
						0.333	-0.007
						1.417	0.000
						1.500	-0.007
						1.833	0.000
						1.917	-0.007
						2.500	0.000
						3.000	0.000
						3.500	0.000
						4.000	0.000
						4.500	0.000
						5.000	0.006
						5.500	0.000
						6.000	0.006

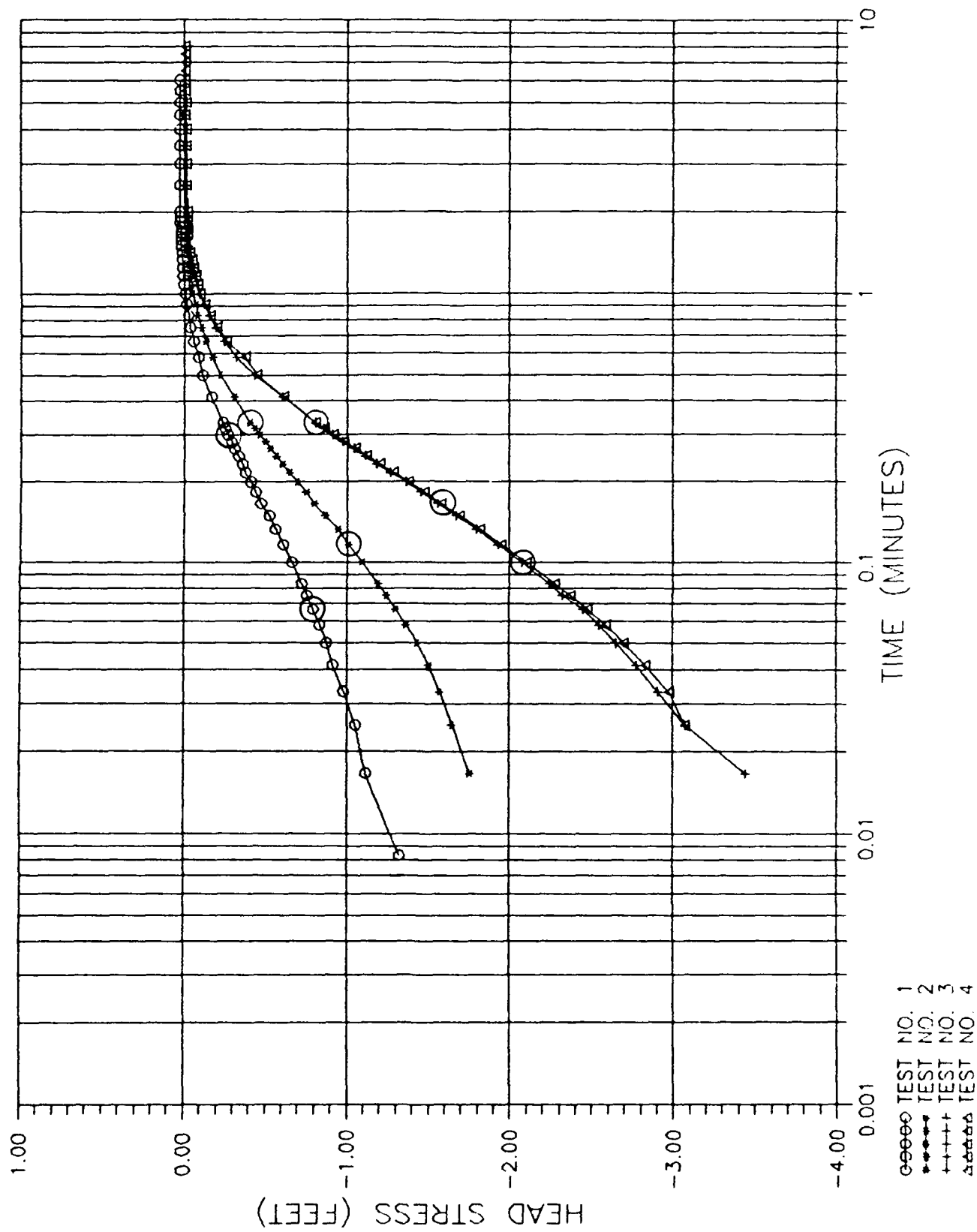
K=1.2E-1 CM/SEC

K=2.0E-1 CM/SEC

K=1.3E-1 CM/SEC

K=2.0E-1 CM/SEC

DBM-89-05



WELL DEM-10-10

WELL DIAMETER: 41 CM, SCREEN LENGTH: 18 FT, RISING DIAMETER: 41 TEST

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-1.328	0.017	-1.754	0.017	-3.444	0.025	-0.070
0.017	-1.117	0.025	-1.647	0.025	-3.073	0.033	-0.577
0.025	-1.054	0.033	-1.571	0.033	-2.908	0.042	-0.630
0.033	-0.978	0.042	-1.500	0.042	-2.776	0.050	-0.700
0.042	-0.915	0.050	-1.432	0.050	-2.650	0.058	-0.586
0.050	-0.877	0.058	-1.363	0.058	-2.549	0.067	-1.473
0.058	-0.833	0.067	-1.300	0.067	-2.448	0.075	-1.370
0.067	-0.795	0.075	-1.243	0.075	-2.320	0.083	-0.267
0.075	-0.757	0.083	-1.190	0.083	-2.240	0.100	-0.121
0.083	-0.726	0.100	-1.092	0.100	-2.075	0.117	-1.549
0.100	-0.663	0.117	-1.010	0.117	-1.930	0.133	-1.617
0.117	-0.612	0.133	-0.947	0.133	-1.798	0.150	-1.631
0.133	-0.562	0.150	-0.885	0.150	-1.670	0.167	-1.577
0.150	-0.524	0.167	-0.802	0.167	-1.553	0.183	-1.476
0.167	-0.474	0.183	-0.751	0.183	-1.457	0.200	-1.375
0.183	-0.442	0.200	-0.694	0.200	-1.363	0.217	-1.287
0.200	-0.410	0.217	-0.650	0.217	-1.268	0.233	-1.205
0.217	-0.373	0.233	-0.606	0.233	-1.186	0.250	-1.123
0.233	-0.360	0.250	-0.569	0.250	-1.111	0.267	-1.054
0.250	-0.335	0.267	-0.530	0.267	-1.041	0.283	-0.984
0.267	-0.310	0.283	-0.499	0.283	-0.972	0.300	-0.921
0.283	-0.291	0.300	-0.467	0.300	-0.915	0.317	-0.865
0.300	-0.272	0.317	-0.436	0.317	-0.858	0.333	-0.808
0.317	-0.253	0.333	-0.404	0.333	-0.802	0.417	-0.612
0.333	-0.240	0.417	-0.310	0.417	-0.696	0.500	-0.448
0.417	-0.171	0.500	-0.221	0.500	-0.436	0.583	-0.379
0.500	-0.114	0.583	-0.177	0.583	-0.322	0.667	-0.259
0.583	-0.089	0.667	-0.133	0.667	-0.246	0.750	-0.202
0.667	-0.057	0.750	-0.108	0.750	-0.196	0.833	-0.158
0.750	-0.038	0.833	-0.082	0.833	-0.152	0.917	-0.127
0.833	-0.026	0.917	-0.070	0.917	-0.120	1.000	-0.101
0.917	-0.013	1.000	-0.051	1.000	-0.095	1.083	-0.082
1.000	-0.007	1.083	-0.045	1.083	-0.070	1.167	-0.070
1.083	0.000	1.167	-0.031	1.167	-0.044	1.250	-0.057
1.167	0.006	1.250	-0.032	1.250	-0.051	1.333	-0.051
1.250	0.010	1.333	-0.026	1.333	-0.038	1.417	-0.038
1.500	0.015	1.500	-0.019	1.500	-0.025	1.560	-0.007
1.833	0.021	1.667	-0.013	1.667	-0.013	1.583	0.000
		2.000	-0.007	1.833	-0.013	1.667	-0.026
		4.500	0.000	2.500	0.000	1.833	-0.019
		5.000	-0.007	3.000	0.000	2.500	-0.013
				3.500	0.000	4.500	-0.007
				4.000	0.000	5.000	0.000
				4.500	0.000	5.500	0.000

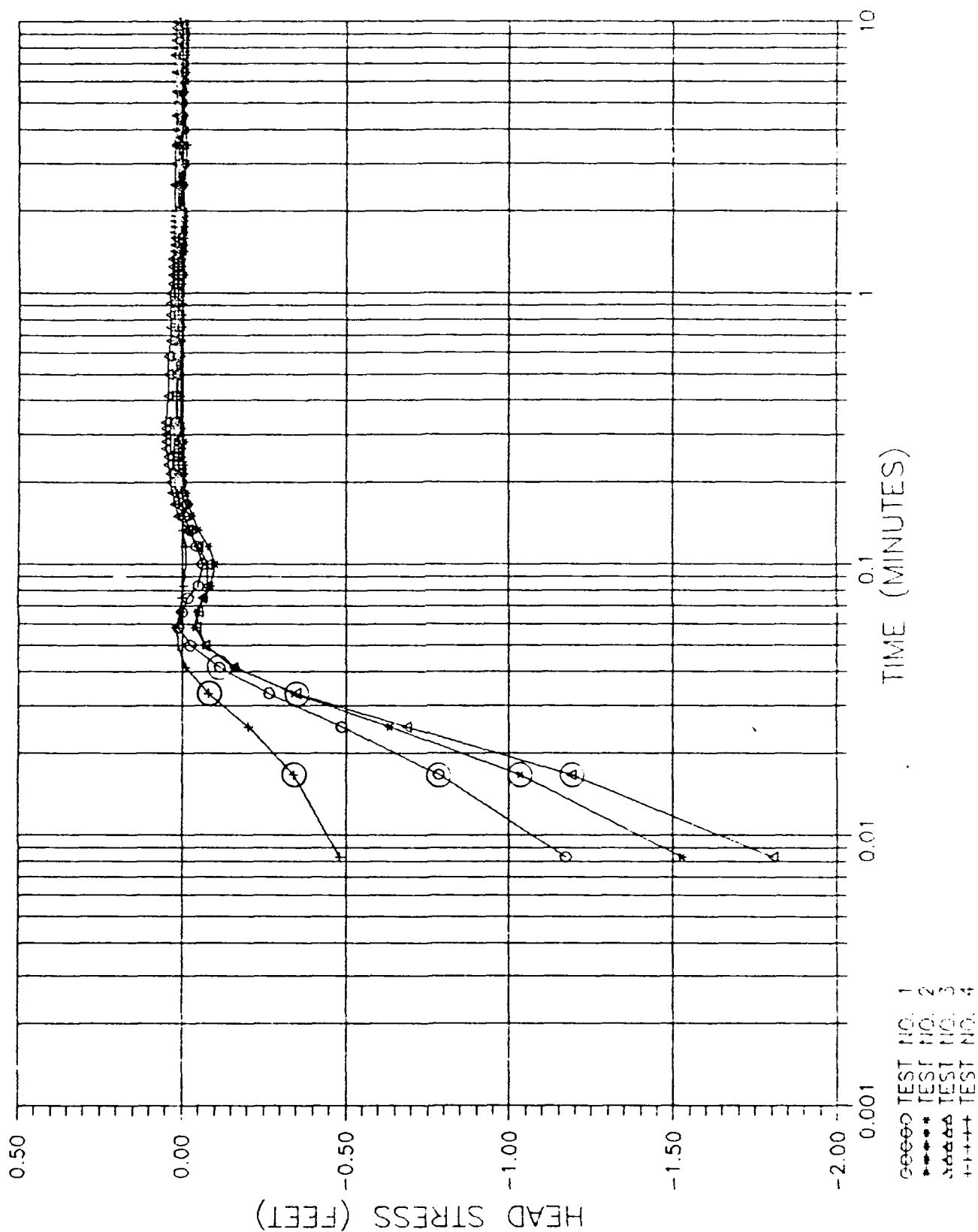
K=7.0E-3 CM/SEC

K=5.4E-3 CM/SEC

K=6.1E-3 CM/SEC

K=6.2E-3 CM/SEC

DBN-89-02B



WELL DEN-39-025

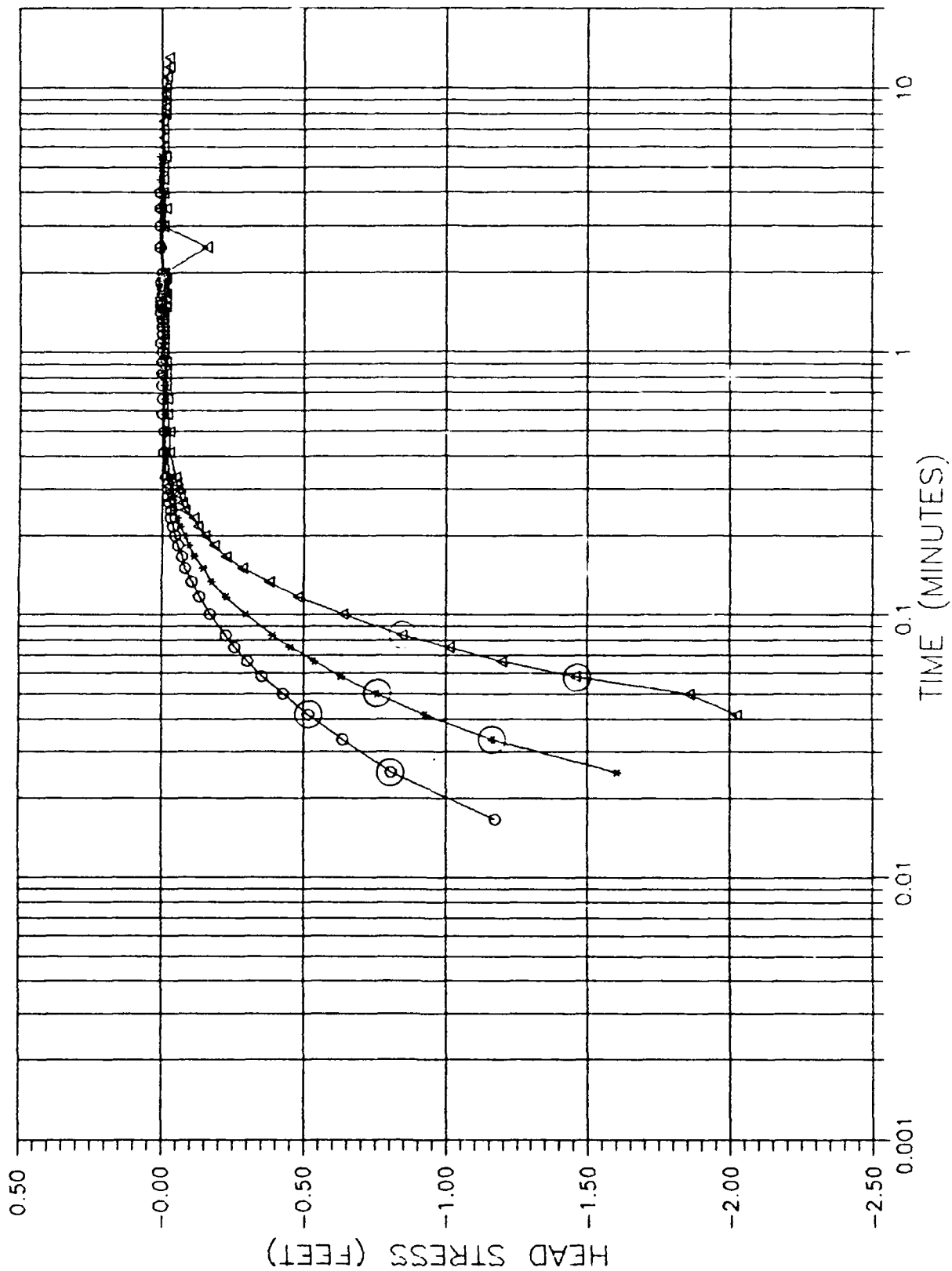
WELL DIAMETER=0.3125 FT. TEST LENGTH=11 FT. BORING DIAMETER=0.75 FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.000	0.000	0.000	-2.059	0.000	-2.465	0.008	-0.431
0.000	-1.584	0.008	-1.527	0.008	-1.806	0.017	-0.342
0.008	-1.172	0.017	-1.033	0.017	-1.191	0.025	-0.302
0.017	-0.785	0.025	-0.633	0.025	-0.684	0.033	-0.082
0.025	-0.487	0.033	-0.342	0.033	-0.348	0.042	-0.012
0.033	-0.266	0.042	-0.164	0.042	-0.156	0.050	0.012
0.042	-0.114	0.050	-0.069	0.050	-0.069	0.058	0.019
0.050	-0.025	0.058	-0.038	0.058	-0.044	0.067	0.006
0.058	0.012	0.067	-0.044	0.067	-0.050	0.075	0.000
0.067	0.000	0.075	-0.069	0.075	-0.063	0.083	-0.006
0.075	-0.019	0.083	-0.088	0.083	-0.076	0.100	-0.012
0.083	-0.050	0.100	-0.101	0.117	-0.059	0.117	-0.012
0.100	-0.063	0.117	-0.082	0.133	-0.019	0.133	0.000
0.117	-0.044	0.133	-0.050	0.150	0.012	0.150	0.000
0.133	-0.025	0.150	-0.031	0.167	0.025	0.167	0.012
0.150	-0.006	0.167	-0.019	0.183	0.031	0.183	0.012
0.167	-0.012	0.183	-0.012	0.200	0.038	0.200	0.012
0.183	0.006	0.200	-0.006	0.233	0.044	0.217	0.012
0.200	0.006	0.250	0.000	0.267	0.050	0.233	0.012
0.217	0.006	0.283	-0.006	0.417	0.044	0.250	0.012
0.233	0.012	0.300	0.006	0.667	0.038	0.267	0.012
0.250	0.012	0.317	0.000	1.083	0.031	0.283	0.012
0.267	0.012	0.333	0.006	1.417	0.025	0.300	0.019
0.283	0.012	0.750	0.000	4.000	0.019	0.317	0.019
0.300	0.012	1.167	-0.006	7.500	0.025	0.333	0.012
0.317	0.012	1.250	0.000	8.000	0.019	0.417	0.019
0.333	0.019	1.417	-0.006			0.500	0.019
0.417	0.019	3.000	-0.012	K=1.4E-1 CM/SEC		0.583	0.019
0.500	0.012	4.500	-0.006			0.667	0.019
0.583	0.012	6.000	-0.012			0.750	0.019
0.667	0.012					0.833	0.012
0.750	0.012	K=1.2E-1 CM/SEC				0.917	0.012
0.833	0.012					1.000	0.012
0.917	0.019					1.083	0.012
1.000	0.012					1.167	0.012
1.083	0.012					1.250	0.012
1.167	0.012					1.333	0.012
1.250	0.012					1.417	0.012
1.333	0.012					1.500	0.012
1.417	0.006					1.583	0.012
1.500	0.006					1.667	0.012
1.583	0.012					1.750	0.012
1.667	0.006					1.833	0.012
1.750	0.006					1.917	0.012
1.833	0.006					2.000	0.012
1.917	0.006					2.500	0.012
2.000	0.006					3.000	0.012
2.500	0.006					3.500	0.012
3.000	0.006					4.000	0.012
3.500	0.006					4.500	0.012
4.000	0.006					5.000	0.012
4.500	0.006					5.500	0.012
5.000	0.006					6.000	0.012

K=1.0E-1 CM/SEC

K=1.6E-1 CM/SEC

DBN-89-04A



TEST NO. 1
TEST NO. 2
TEST NO. 3

WELL DRN-59-04A
WELL DIAMETER=0.3125FT, SCREEN LENGTH=16FT, BORING DIAMETER=0.75FT

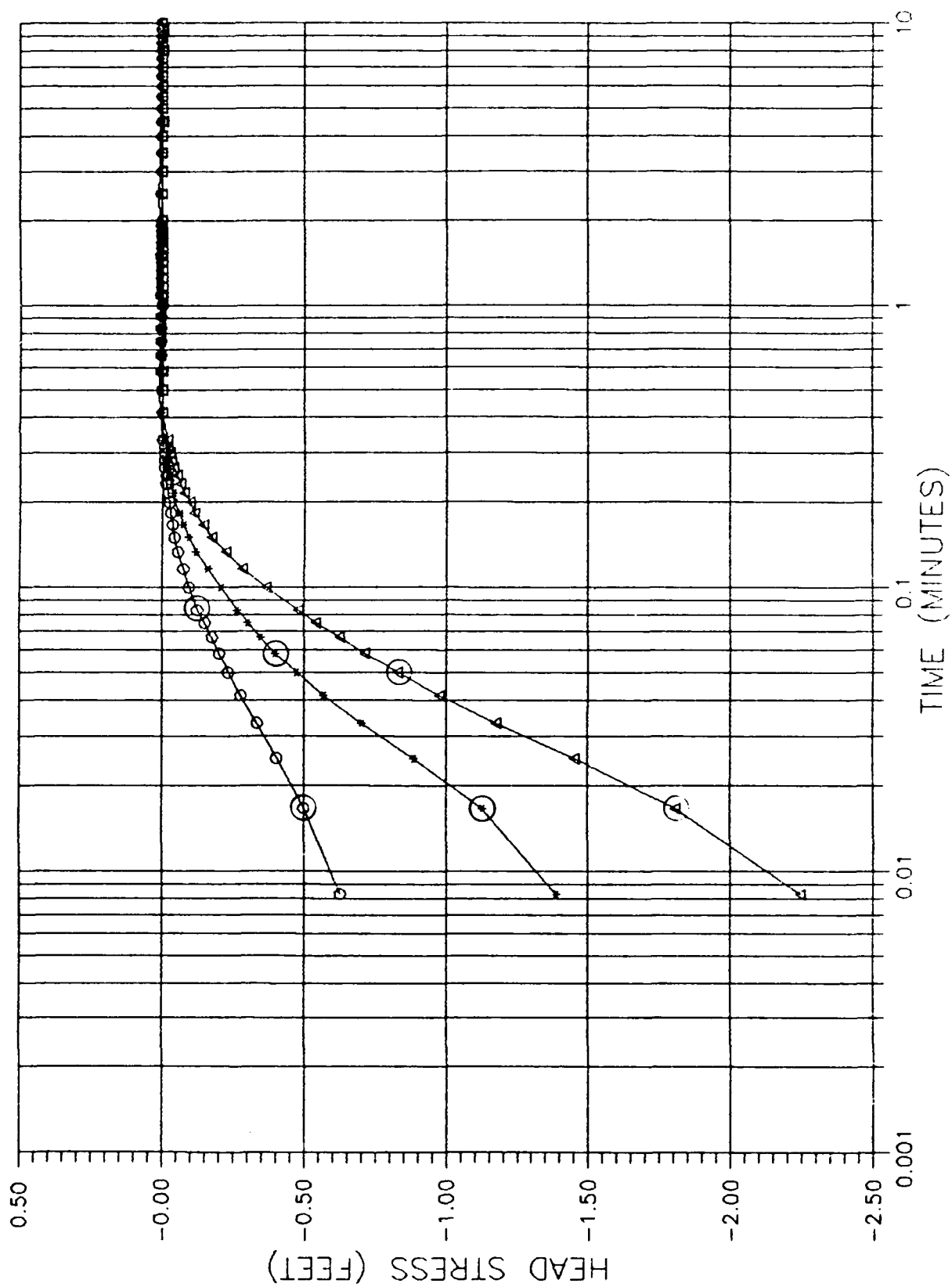
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.017	-1.174	0.025	-1.693	0.042	-0.826
0.025	-0.808	0.033	-1.167	0.050	-1.855
0.033	-0.635	0.042	-0.928	0.058	-1.457
0.042	-0.518	0.050	-0.757	0.067	-1.199
0.050	-0.429	0.058	-0.631	0.075	-1.016
0.058	-0.354	0.067	-0.537	0.083	-0.845
0.067	-0.303	0.075	-0.455	0.100	-0.638
0.075	-0.259	0.083	-0.392	0.117	-0.460
0.083	-0.228	0.100	-0.297	0.133	-0.379
0.100	-0.171	0.117	-0.229	0.150	-0.284
0.117	-0.133	0.133	-0.177	0.167	-0.228
0.133	-0.108	0.150	-0.146	0.183	-0.183
0.150	-0.082	0.167	-0.114	0.200	-0.152
0.167	-0.070	0.183	-0.095	0.217	-0.127
0.183	-0.057	0.200	-0.082	0.233	-0.114
0.200	-0.045	0.217	-0.064	0.250	-0.092
0.217	-0.038	0.233	-0.057	0.267	-0.070
0.233	-0.032	0.250	-0.045	0.283	-0.064
0.267	-0.026	0.283	-0.038	0.300	-0.057
0.283	-0.019	0.300	-0.032	0.317	-0.051
0.333	-0.013	0.317	-0.026	0.333	-0.045
0.417	-0.007	0.417	-0.013	0.417	-0.026
0.523	0.000	0.500	-0.007	0.583	-0.019
1.083	0.006	0.833	0.000	0.750	-0.013
1.167	0.000	3.000	0.006	1.000	-0.007
1.417	0.006			1.500	-0.013
1.667	0.000			1.750	-0.007
1.833	0.006			1.917	-0.013
1.917	0.000			2.000	-0.007
2.500	0.005			2.500	-0.158
				3.000	-0.007
				3.500	-0.013
				4.000	-0.007
				5.500	-0.013
				6.000	-0.007
				8.000	-0.013
				11.000	-0.019
				12.000	-0.026

$K=4.0E-2$ CM/SEC

$3.9E-2$ CM/SEC

$K=0.3E-2$ CM/SEC

DBN-89-04B



OOOOO TEST NO. 1
 ***** TEST NO. 2
 ^^^^^^ TEST NO. 3

WELL D8N-02-04B
WELL DIAMETER= 6 INCHES, SCREEN LENGTH=10FT, BORE DIAMETER= 10FT

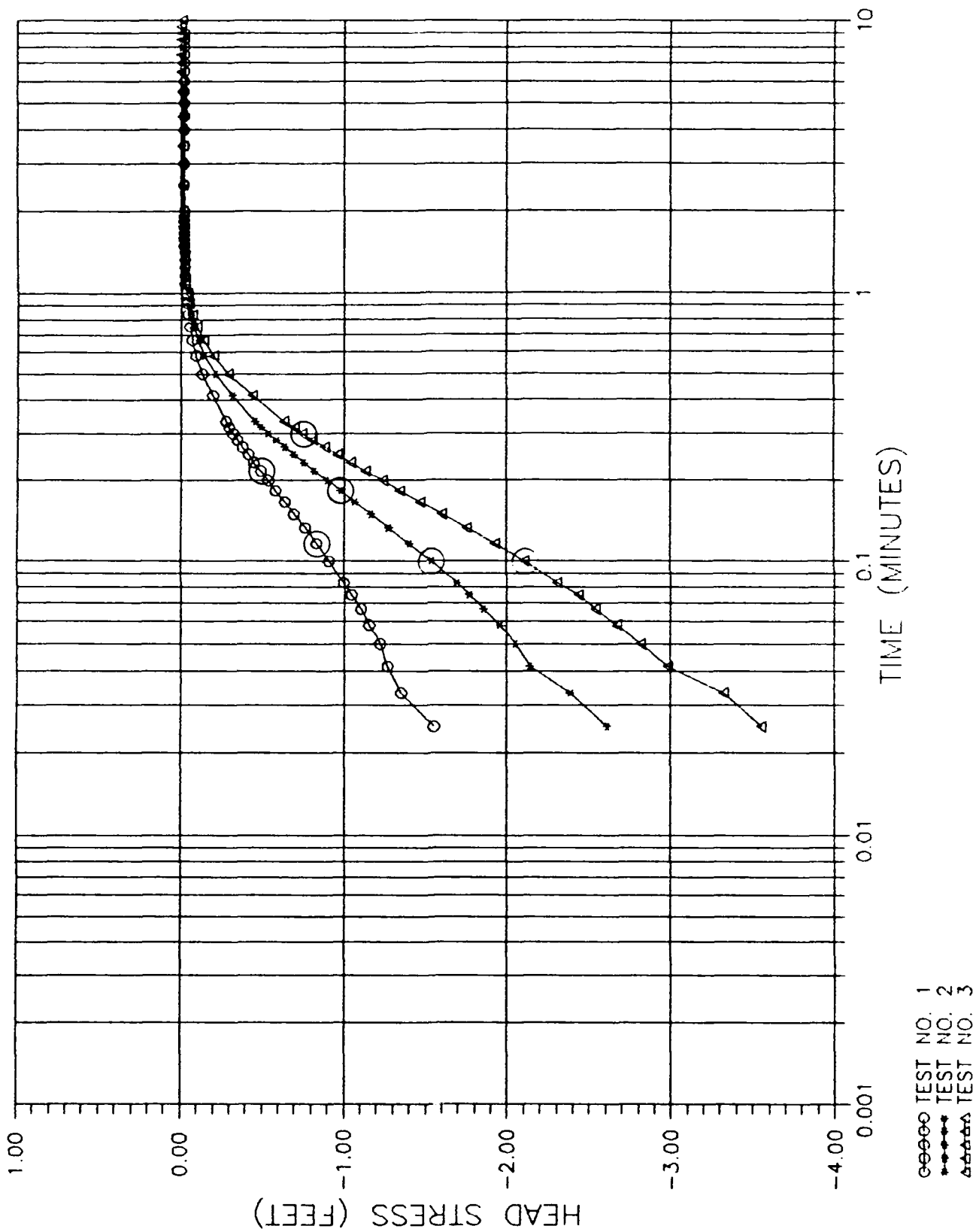
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.627	0.008	-1.387	0.008	-2.243
0.017	-0.588	0.017	-1.128	0.017	-1.896
0.025	-0.405	0.025	-0.887	0.025	-1.451
0.033	-0.335	0.033	-0.703	0.033	-1.178
0.042	-0.278	0.042	-0.576	0.042	-0.975
0.050	-0.234	0.050	-0.475	0.050	-0.830
0.058	-0.202	0.058	-0.399	0.058	-0.716
0.067	-0.177	0.067	-0.343	0.067	-0.627
0.075	-0.152	0.075	-0.304	0.075	-0.545
0.083	-0.128	0.083	-0.266	0.083	-0.481
0.100	-0.095	0.100	-0.209	0.100	-0.367
0.117	-0.076	0.117	-0.164	0.117	-0.285
0.133	-0.057	0.133	-0.120	0.133	-0.228
0.150	-0.044	0.150	-0.095	0.150	-0.177
0.167	-0.038	0.167	-0.076	0.167	-0.145
0.183	-0.031	0.183	-0.063	0.183	-0.114
0.200	-0.025	0.200	-0.044	0.200	-0.095
0.217	-0.019	0.217	-0.038	0.217	-0.076
0.233	-0.012	0.233	-0.031	0.233	-0.063
0.250	-0.006	0.250	-0.025	0.250	-0.050
0.333	0.000	0.267	-0.012	0.267	-0.038
0.583	0.006	0.300	-0.006	0.283	-0.031
1.000	0.000	0.317	-0.012	0.300	-0.025
1.083	0.006	0.333	0.000	0.317	-0.019
1.167	0.000	0.417	0.006	0.417	0.000
1.500	0.006	0.500	0.012	0.657	0.006
1.583	0.000	1.750	0.006	1.083	0.000
		1.833	0.012	4.500	-0.006
		2.000	0.006	5.000	0.000
		2.500	0.012	8.000	-0.006
		3.000	0.006	8.500	0.000
				9.500	-0.006
				10.000	0.000

K=4.2E-2 CM/SEC

K=5.0E-2 CM/SEC

K=5.1E-2 CM/SEC

ELM-89-01



WELL ELM-89-01

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

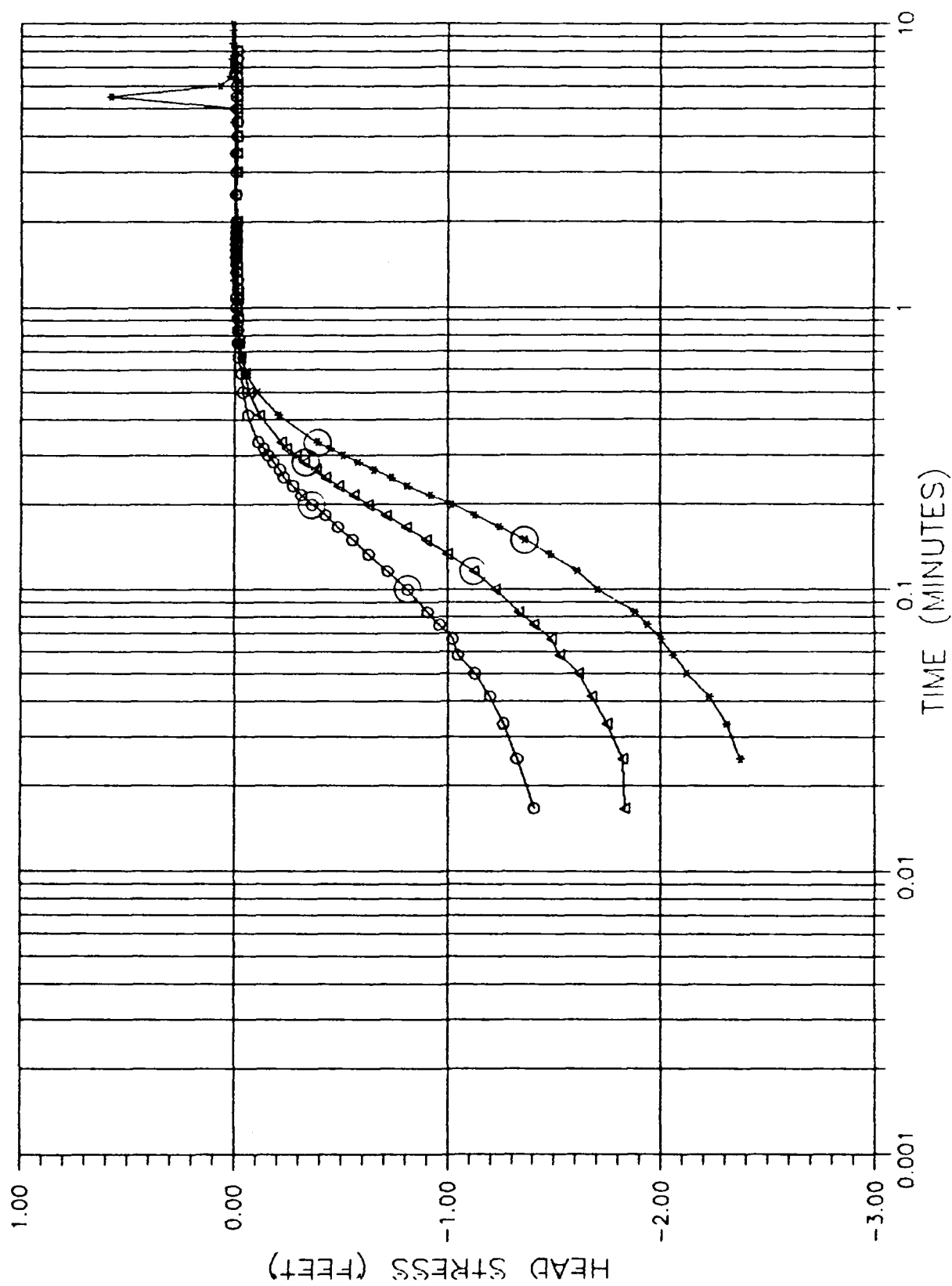
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.025	-1.552	0.025	-2.612	0.025	-3.558
0.033	-1.350	0.033	-2.385	0.033	-3.331
0.042	-1.268	0.042	-2.139	0.042	-2.990
0.050	-1.224	0.050	-2.050	0.050	-2.826
0.058	-1.155	0.058	-1.956	0.058	-2.681
0.067	-1.104	0.067	-1.855	0.067	-2.549
0.075	-1.047	0.075	-1.767	0.075	-2.442
0.083	-0.997	0.083	-1.691	0.083	-2.309
0.100	-0.939	0.100	-1.533	0.100	-2.114
0.117	-0.833	0.117	-1.401	0.117	-1.931
0.133	-0.764	0.133	-1.275	0.133	-1.761
0.150	-0.694	0.150	-1.167	0.150	-1.609
0.167	-0.638	0.167	-1.066	0.167	-1.477
0.183	-0.581	0.183	-0.978	0.183	-1.351
0.200	-0.537	0.200	-0.896	0.200	-1.243
0.217	-0.492	0.217	-0.820	0.217	-1.142
0.233	-0.445	0.233	-0.757	0.233	-1.049
0.250	-0.417	0.250	-0.694	0.250	-0.966
0.267	-0.379	0.267	-0.639	0.267	-0.890
0.283	-0.347	0.283	-0.587	0.283	-0.814
0.300	-0.322	0.300	-0.537	0.300	-0.751
0.317	-0.297	0.317	-0.492	0.317	-0.701
0.333	-0.278	0.333	-0.455	0.333	-0.638
0.417	-0.196	0.417	-0.316	0.417	-0.449
0.500	-0.133	0.500	-0.215	0.500	-0.304
0.583	-0.095	0.583	-0.146	0.583	-0.209
0.667	-0.070	0.667	-0.108	0.667	-0.146
0.750	-0.057	0.750	-0.076	0.750	-0.108
0.833	-0.045	0.833	-0.057	0.833	-0.077
0.917	-0.038	0.917	-0.045	0.917	-0.058
1.000	-0.032	1.000	-0.036	1.000	-0.051
1.083	-0.026	1.083	-0.026	1.083	-0.039
1.500	-0.019	1.333	-0.019	1.167	-0.032
		1.583	-0.013	1.333	-0.026
		3.500	-0.007	1.667	-0.020
		6.000	-0.013	1.750	-0.026
		6.500	-0.007	1.917	-0.020
		7.000	-0.013	3.000	-0.013
		7.500	-0.007	3.500	-0.020
		8.000	-0.013	4.000	-0.013
		9.000	-0.007	6.500	-0.007
				10.000	-0.013
				11.000	-0.007

K=8.0E-3 CM/SEC

K=8.3E-3 CM/SEC

K=8.2E-3 CM/SEC

ELM-89-05



oooo TEST NO. 1
***** TEST NO. 2
^v^v^v TEST NO. 3

WELL BLM-89-05
WELL DIAMETER=0.3125FT, SCREEN LENGTH=151FT, BORING DIAMETER=0.75FT

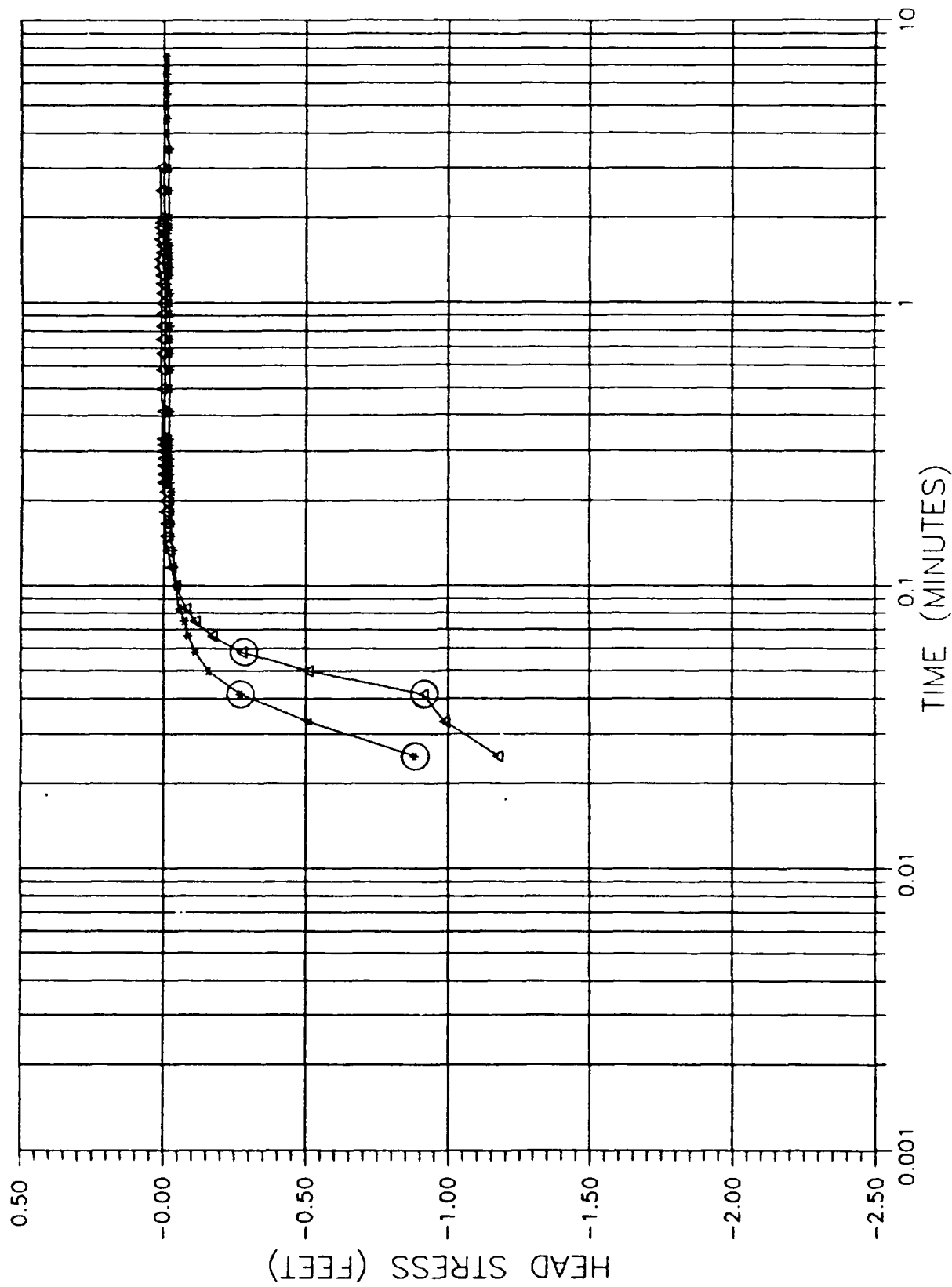
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN	FEET	MIN	FEET	MIN	FEET
0.017	-1.407	0.025	-2.372	0.017	-1.830
0.025	-1.325	0.033	-2.309	0.025	-1.823
0.033	-1.262	0.042	-2.227	0.033	-1.743
0.042	-1.199	0.050	-2.120	0.042	-1.678
0.050	-1.129	0.058	-2.057	0.050	-1.615
0.058	-1.047	0.067	-2.000	0.058	-1.527
0.067	-1.022	0.075	-1.937	0.067	-1.489
0.075	-0.965	0.083	-1.880	0.075	-1.407
0.083	-0.909	0.100	-1.703	0.083	-1.338
0.100	-0.814	0.117	-1.609	0.100	-1.224
0.117	-0.720	0.133	-1.483	0.117	-1.123
0.133	-0.631	0.150	-1.353	0.133	-1.003
0.150	-0.556	0.167	-1.243	0.150	-0.902
0.167	-0.486	0.183	-1.129	0.167	-0.808
0.183	-0.429	0.200	-1.022	0.183	-0.713
0.200	-0.366	0.217	-0.921	0.200	-0.631
0.217	-0.316	0.233	-0.814	0.217	-0.562
0.233	-0.278	0.250	-0.738	0.233	-0.492
0.250	-0.234	0.267	-0.656	0.250	-0.429
0.267	-0.215	0.283	-0.581	0.267	-0.385
0.283	-0.183	0.300	-0.511	0.283	-0.323
0.300	-0.152	0.317	-0.448	0.300	-0.291
0.317	-0.139	0.333	-0.392	0.317	-0.245
0.333	-0.114	0.417	-0.209	0.333	-0.221
0.417	-0.064	0.500	-0.108	0.417	-0.120
0.500	-0.038	0.583	-0.057	0.500	-0.070
0.583	-0.032	0.667	-0.032	0.583	-0.051
0.667	-0.019	0.750	-0.019	0.667	-0.032
0.750	-0.013	0.833	-0.013	0.750	-0.026
1.000	-0.007	0.917	-0.007	0.833	-0.013
1.167	-0.013	1.250	0.000	0.917	-0.019
1.333	-0.007	3.000	-0.007	1.000	-0.013
4.000	-0.013	3.500	0.000	1.083	-0.019
5.000	-0.007	5.500	0.580	1.167	-0.013
7.500	-0.013	6.000	0.069	1.500	-0.007
		6.500	0.018	1.583	-0.013
		7.000	0.012	1.667	-0.007
		8.000	0.006	1.750	-0.013
				1.833	-0.007
				1.917	-0.013
				2.500	-0.007
				3.000	-0.013

$K=1.2E-2$ CM/SEC

$K=1.0E-2$ CM/SEC

$K=1.1E-2$ CM/SEC

ELM-89-07



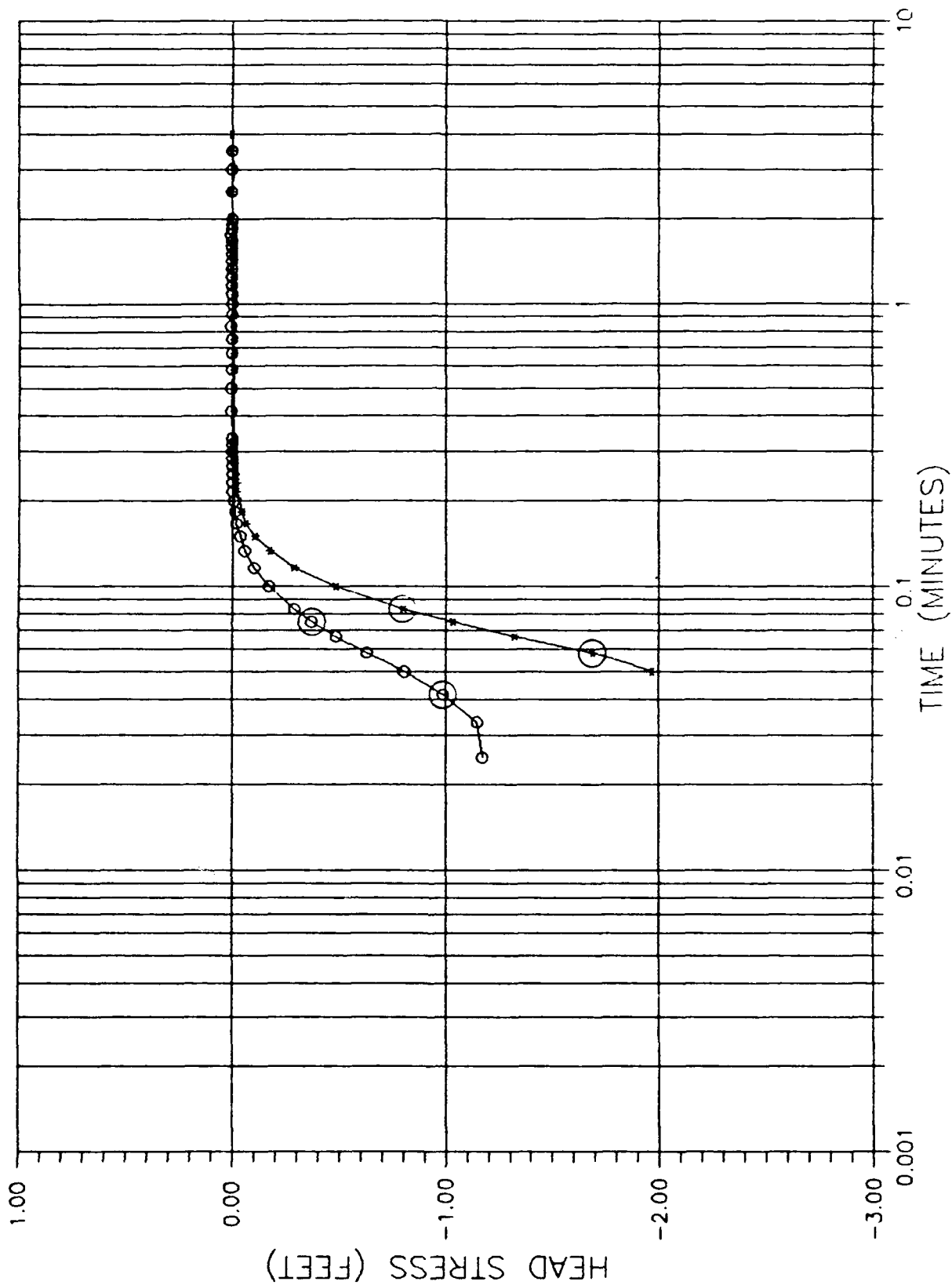
WELL ELM-89-07
 WELL DIAMETER=0.3125FT, SCREEN LENGTH=10FT, BOPING DIAMETER=0.75FT

TEST 1		TEST 2	
TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET
0.025	-0.883	0.025	-1.179
0.033	-0.810	0.033	-0.990
0.042	-0.821	0.042	-0.914
0.050	-0.157	0.050	-0.810
0.058	-0.113	0.058	-0.827
0.067	-0.088	0.067	-0.170
0.075	-0.075	0.075	-0.113
0.083	-0.056	0.083	-0.081
0.100	-0.044	0.100	-0.044
0.117	-0.037	0.117	-0.025
0.133	-0.031	0.133	-0.012
0.150	-0.025	0.150	-0.006
0.233	-0.018	0.183	0.000
1.167	-0.012	0.233	0.006
1.250	-0.018	0.500	0.012
1.667	-0.012	1.333	0.018
1.833	-0.016	1.500	0.012
1.917	-0.012	1.667	0.018
2.000	-0.018	1.750	0.012
4.000	-0.012	1.833	0.018
		2.000	0.012

K=1.0E-1 CM/SEC

K=1.0E-1 CM/SEC

ELM-89-08



o o o o o o TEST NO. 1
x x x x x x TEST NO. 2

WELL ELM-82-08

WELL DIAMETER=0.3105FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.76FT

TEST 1

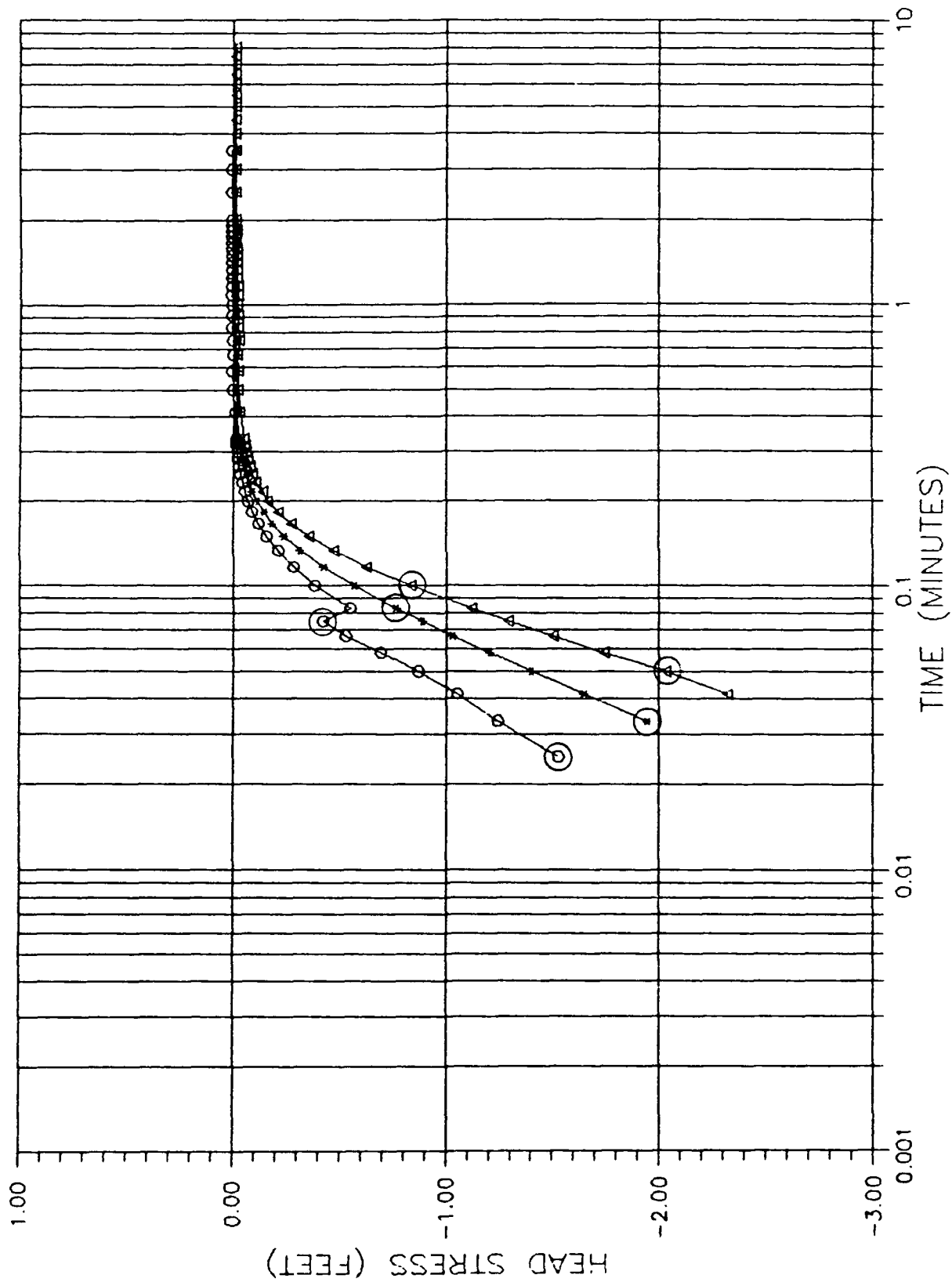
TEST 2

TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.025	-1.174	0.050	-1.968
0.033	-1.148	0.053	-1.691
0.042	-0.991	0.067	-1.325
0.051	-0.836	0.075	-1.035
0.058	-0.631	0.083	-0.802
0.067	-0.486	0.100	-0.486
0.075	-0.373	0.117	-0.291
0.083	-0.291	0.133	-0.177
0.100	-0.171	0.150	-0.108
0.117	-0.101	0.167	-0.064
0.133	-0.057	0.183	-0.045
0.150	-0.038	0.200	-0.032
0.167	-0.019	0.217	-0.019
0.183	-0.013	0.250	-0.013
0.200	-0.007	0.267	-0.007
0.217	0.000	1.333	0.000
0.417	0.006	1.417	-0.007
0.583	0.000	2.600	0.000
0.833	0.006	3.000	-0.007
0.917	0.000	3.500	0.000
1.750	0.006		
1.833	0.000		

$K=4.1E-2$ CM/SEC

$K=4.4E-2$ CM/SEC

ELM-89-09



00000 TEST NO. 1
* * * * * TEST NO. 2
Δ Δ Δ Δ Δ TEST NO. 3

WELL ELM-89-03

WELL DIAMETER=0.315FT. SCREEN LENGTH=15FT. BORING DIAMETER=0.75FT

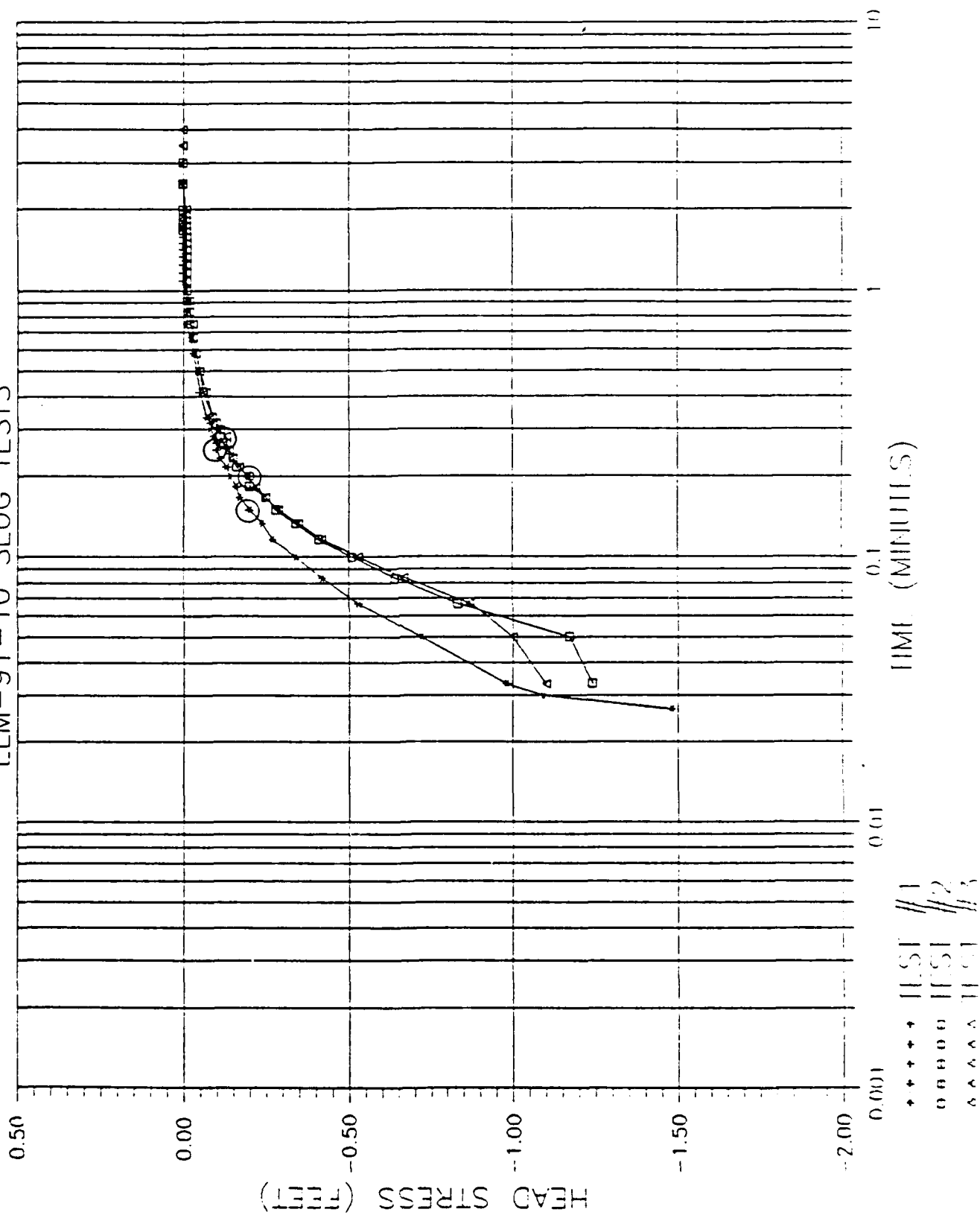
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.025	-1.527	0.033	-1.943	0.042	-0.322
0.033	-1.243	0.042	-1.647	0.050	-2.031
0.040	-1.054	0.050	-1.401	0.058	-1.741
0.050	-0.871	0.058	-1.205	0.067	-1.502
0.058	-0.694	0.067	-1.023	0.075	-1.293
0.067	-0.530	0.075	-0.890	0.083	-1.117
0.075	-0.423	0.083	-0.764	0.100	-0.833
0.083	-0.549	0.100	-0.568	0.117	-0.625
0.100	-0.385	0.117	-0.423	0.133	-0.474
0.117	-0.284	0.133	-0.316	0.150	-0.360
0.133	-0.215	0.150	-0.240	0.167	-0.272
0.150	-0.158	0.167	-0.183	0.183	-0.215
0.167	-0.120	0.183	-0.146	0.200	-0.164
0.183	-0.089	0.200	-0.114	0.217	-0.139
0.200	-0.070	0.217	-0.089	0.233	-0.103
0.217	-0.057	0.233	-0.076	0.250	-0.089
0.233	-0.045	0.250	-0.064	0.267	-0.082
0.250	-0.032	0.267	-0.051	0.283	-0.070
0.267	-0.026	0.283	-0.045	0.300	-0.064
0.283	-0.019	0.300	-0.038	0.317	-0.057
0.317	-0.013	0.317	-0.032	0.333	-0.051
0.417	-0.007	0.333	-0.026	0.417	-0.032
0.500	0.000	0.417	-0.019	0.500	-0.026
0.583	0.006	0.583	-0.013	0.667	-0.019
0.667	0.000	0.833	-0.007	0.750	-0.032
0.750	0.000	1.250	0.000	0.833	-0.026
0.833	0.006	1.333	-0.007	1.000	-0.019
		3.500	-0.013	1.083	-0.026
				1.250	-0.019
				1.667	-0.013
				1.833	-0.019
				1.917	-0.013

K=3.9E-2 CM/SEC

K=2.8E-2 CM/SEC

K=2.6E-2 CM/SEC

ELM-91-10 SLUG TESTS



WELL ELM-91-10
WELL DIAMETER=0.3125FT. SCREEN LENG. -20FT. BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3	
MINUTES	FEET	MINUTES	FEET	MINUTES	FEET
0.0033	0.01	0.0033	0.01	0.0033	0
0.0066	0	0.0066	0.01	0.0066	-0.08
0.0099	-0.31	0.0099	-0.46	0.0099	-0.73
0.0133	-0.69	0.0133	-0.91	0.0133	-0.97
0.0166	-0.67	0.0166	-0.8	0.0166	-0.74
0.02	-0.67	0.02	-0.86	0.02	-0.59
0.0233	-0.76	0.0233	-0.23	0.0233	-0.02
0.0266	-1.46	0.0266	-0.08	0.0266	-0.15
0.03	-1.09	0.03	-0.77	0.03	-0.75
0.0333	-0.96	0.0333	-1.24	0.0333	-1.1
0.05	-0.72	0.05	-1.17	0.05	-1
0.0666	-0.53	0.0666	-0.83	0.0666	-0.87
0.0833	-0.42	0.0833	-0.64	0.0833	-0.87
0.1	-0.34	0.1	-0.51	0.1	-0.53
0.1166	-0.27	0.1166	-0.41	0.1166	-0.42
0.1333	-0.24	0.1333	-0.34	0.1333	-0.35
0.15	-0.2	0.15	-0.28	0.15	-0.29
0.1666	-0.17	0.1666	-0.25	0.1666	-0.25
0.1833	-0.16	0.1833	-0.2	0.1833	-0.22
0.2	-0.14	0.2	-0.2	0.2	-0.19
0.2166	-0.13	0.2166	-0.16	0.2166	-0.17
0.2333	-0.11	0.2333	-0.15	0.2333	-0.15
0.25	-0.1	0.25	-0.14	0.25	-0.14
0.2666	-0.1	0.2666	-0.12	0.2666	-0.13
0.2833	-0.09	0.2833	-0.11	0.2833	-0.13
0.3	-0.08	0.3	-0.11	0.3	-0.1
0.3166	-0.08	0.3166	-0.1	0.3166	-0.1
0.3333	-0.07	0.3333	-0.09	0.3333	-0.09
0.4167	-0.05	0.4167	-0.06	0.4167	-0.07
0.5	-0.04	0.5	-0.05	0.5	-0.05
0.5833	-0.03	0.5833	-0.04	0.5833	-0.04
0.6667	-0.02	0.6667	-0.03	0.6667	-0.03
0.75	-0.01	0.75	-0.02	0.75	-0.03
0.8333	-0.01	0.8333	-0.02	0.8333	-0.02
0.9167	-0.01	0.9167	-0.01	0.9167	-0.02
1	-0.01	1	-0.01	1	-0.01
1.0833	0	1.0833	-0.01	1.0833	-0.01
1.1667	0	1.1667	-0.01	1.1667	-0.01
1.25	0	1.25	-0.01	1.25	-0.01
1.3333	0	1.3333	-0.01	1.3333	-0.01
1.4166	0	1.4166	-0.01	1.4166	-0.01
1.5	0	1.5	-0.01	1.5	-0.01
1.5833	0	1.5833	-0.01	1.5833	-0.01
1.6667	0	1.6667	0	1.6667	-0.01
1.75	0	1.75	0	1.75	-0.01
1.8333	0	1.8333	0	1.8333	-0.01
1.9167	0	1.9167	0	1.9167	-0.01
2	0	2	0	2	-0.01
2.5	0	2.5	0	2.5	0
		3	0	3	0
				3.5	0
				4	0

HVORSLEV:

K = 0.002 CM/SEC

BOUYER AND RICE:

K = 0.011 CM/SEC

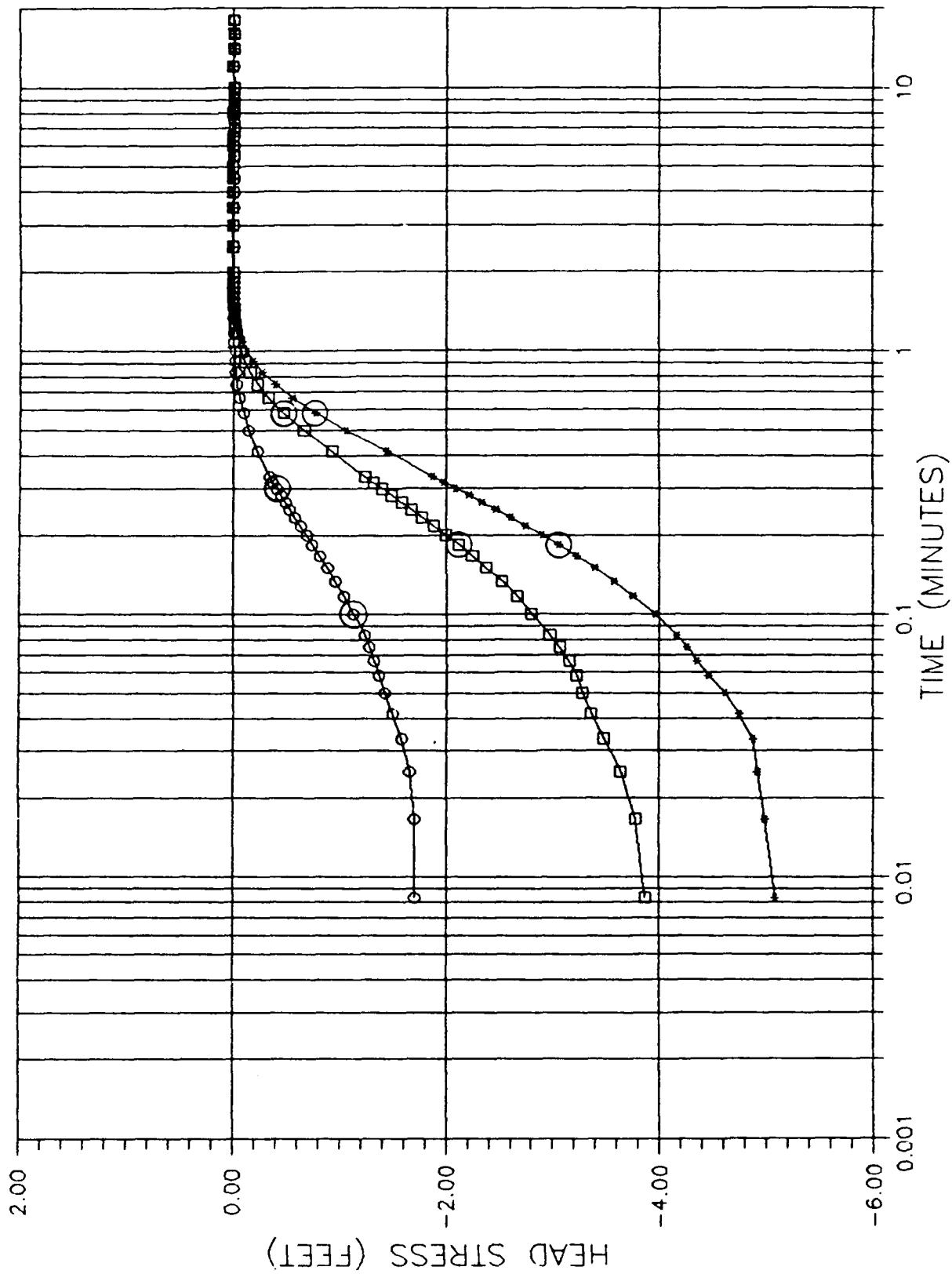
K = 0.002 CM/SEC

K = 0.013 CM/SEC

K = 0.002 CM/SEC

K = 0.011 CM/SEC

ELN-82-03C



oooo TEST NO. 1
* * * * * TEST NO. 2
oooo TEST NO. 3

ELN-81-030

WELL DIAMETER=10.06FT. SCREEN LENGTH=12FT. BOPING DIAMETER=1.76FT

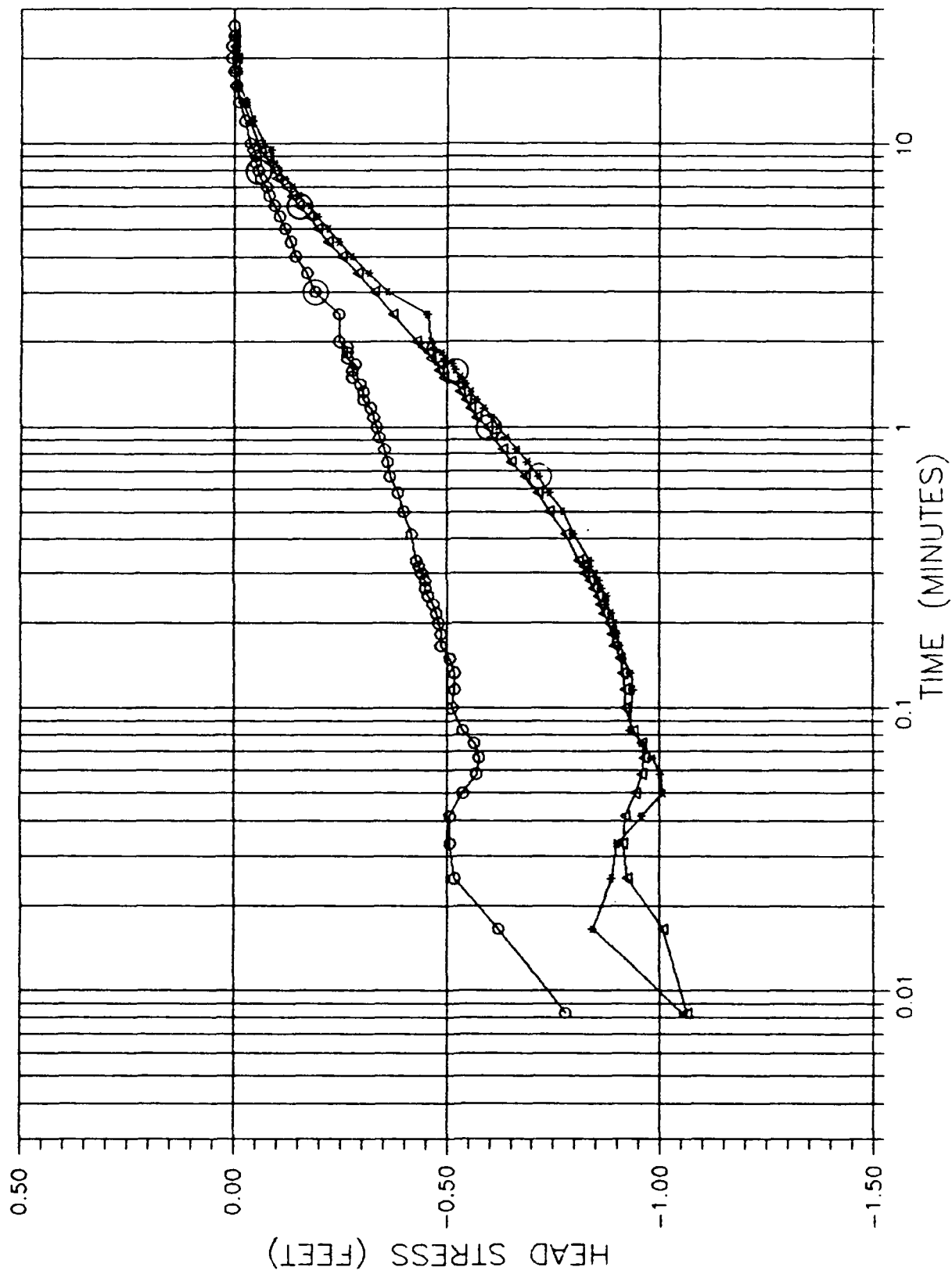
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-1.704	0.008	-5.092	0.008	-3.895
0.025	-1.680	0.017	-4.997	0.017	-3.777
0.033	-1.584	0.025	-4.917	0.025	-3.637
0.042	-1.495	0.033	-4.879	0.033	-3.479
0.050	-1.425	0.042	-4.746	0.042	-3.359
0.058	-1.363	0.050	-4.612	0.050	-3.282
0.067	-1.324	0.058	-4.461	0.058	-3.225
0.075	-1.280	0.067	-4.353	0.067	-3.156
0.083	-1.235	0.075	-4.258	0.075	-3.087
0.100	-1.134	0.083	-4.163	0.083	-2.972
0.117	-1.045	0.100	-3.960	0.100	-2.891
0.133	-0.963	0.117	-3.751	0.117	-2.666
0.150	-0.892	0.133	-3.574	0.133	-2.522
0.167	-0.817	0.150	-3.396	0.150	-2.376
0.183	-0.747	0.167	-3.215	0.167	-2.249
0.200	-0.697	0.183	-3.054	0.183	-2.123
0.217	-0.640	0.200	-2.932	0.200	-2.002
0.233	-0.582	0.217	-2.750	0.217	-1.885
0.250	-0.532	0.233	-2.611	0.233	-1.760
0.267	-0.494	0.250	-2.471	0.250	-1.679
0.283	-0.449	0.267	-2.338	0.267	-1.534
0.300	-0.411	0.283	-2.212	0.283	-1.489
0.317	-0.373	0.300	-2.091	0.300	-1.400
0.333	-0.343	0.317	-1.977	0.317	-1.318
0.417	-0.228	0.333	-1.875	0.333	-1.242
0.500	-0.145	0.417	-1.444	0.417	-0.931
0.583	-0.101	0.500	-1.064	0.500	-0.671
0.667	-0.057	0.583	-0.779	0.583	-0.425
0.750	-0.031	0.667	-0.557	0.667	-0.329
0.833	-0.025	0.750	-0.399	0.750	-0.234
0.917	-0.019	0.833	-0.272	0.833	-0.158
1.083	-0.006	0.917	-0.190	0.917	-0.107
1.333	0.000	1.000	-0.125	1.000	-0.069
1.417	-0.006	1.083	-0.092	1.083	-0.050
4.000	-0.012	1.167	-0.050	1.167	-0.031
5.000	-0.006	1.250	-0.021	1.250	-0.019
5.500	-0.012	1.333	-0.012	1.333	-0.006
8.000	-0.006	1.417	-0.006	1.500	0.000
8.500	-0.012	1.500	0.000	5.500	-0.006
12.000	-0.006	1.583	0.006	6.000	0.000
14.000	-0.012	1.917	0.012	7.000	-0.006
		3.000	0.006	8.000	0.000
		4.000	0.000	8.500	-0.006
		5.000	0.006	12.000	0.000
		5.500	0.000	14.000	-0.006
		6.000	0.006		
		6.500	0.000		
		2.500	0.006		
		9.000	0.000		
		14.000	-0.006		

K=9.0E-3 CM/SEC

K=6.7E-3 CM/SEC

K=6.1E-3 CM/SEC

ELN-82-04A

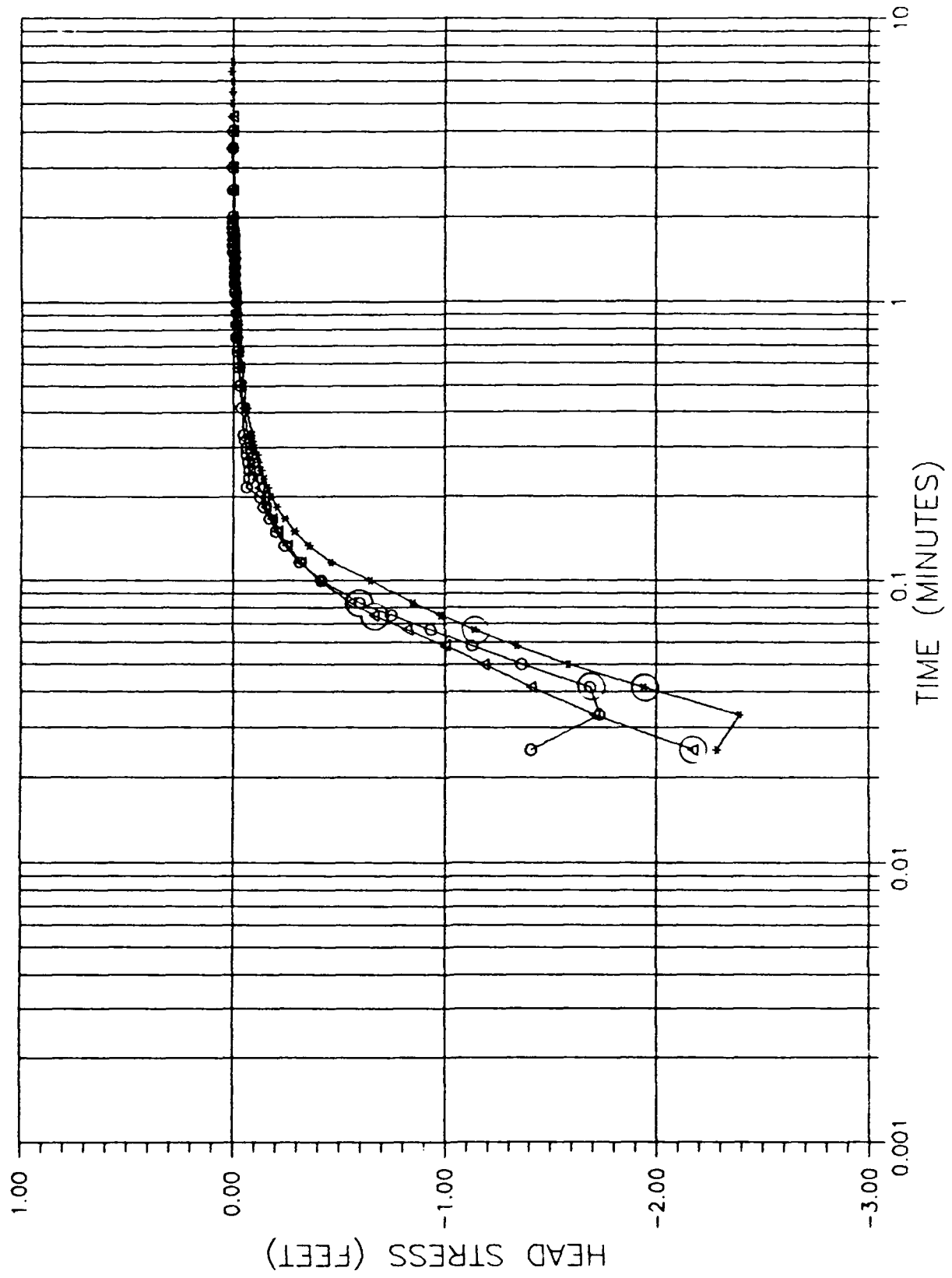


ooooo TEST NO. 1
***** TEST NO. 2
TEST NO. 3

TEST 1		TEST 2		TEST 3		TEST 4		TEST 5		TEST 6	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN	FEET	MIN	FEET	MIN	FEET	MIN	FEET	MIN	FEET	MIN	FEET
0.008	-0.779	0.008	-0.002	0.500	-0.198	0.008	-0.064	0.500	-0.197		
0.017	-0.801	0.017	-0.841	0.600	-0.177	0.017	-0.107	0.600	-0.186		
0.025	-0.519	0.025	-0.887	0.500	-0.152	0.025	-0.303	0.500	-0.183		
0.033	-0.507	0.033	-0.893	0.000	-0.139	0.033	-0.310	0.000	-0.120		
0.050	-0.535	0.040	-0.956	0.500	-0.120	0.040	-0.917	0.500	-0.101		
0.058	-0.570	0.050	-1.007	0.000	-0.107	0.058	-0.944	0.000	-0.095		
0.067	-0.576	0.058	-1.001	0.500	-0.095	0.067	-0.956	0.000	-0.060		
0.075	-0.554	0.067	-0.932	0.000	-0.083	0.075	-0.963	0.000	-0.076		
0.083	-0.538	0.075	-0.956	10.000	-0.069	0.083	-0.969	0.500	-0.063		
0.100	-0.513	0.083	-0.931	12.000	-0.044	0.100	-0.907	10.000	-0.057		
0.117	-0.519	0.117	-0.937	14.000	-0.031	0.117	-0.913	12.000	-0.033		
0.150	-0.507	0.133	-0.931	16.000	-0.011	0.133	-0.910	14.000	-0.019		
0.167	-0.497	0.150	-0.912	20.000	-0.006	0.150	-0.905	16.000	0.000		
0.200	-0.481	0.167	-0.906			0.167	-0.893	18.000	0.000		
0.217	-0.475	0.183	-0.899	K=4.3E-4 CM/SEC		0.183	-0.887	20.000	-0.006		
0.233	-0.468	0.200	-0.893			0.200	-0.890	22.000	0.000		
0.250	-0.456	0.217	-0.887			0.217	-0.868		0.000		
0.267	-0.449	0.233	-0.874			0.233	-0.861	K=0.3E-4 CM/SEC			
0.300	-0.443	0.267	-0.861			0.350	-0.855				
0.317	-0.437	0.283	-0.855			0.267	-0.842				
0.333	-0.430	0.300	-0.849			0.293	-0.836				
0.417	-0.416	0.317	-0.836			0.360	-0.823				
0.500	-0.399	0.417	-0.793			0.333	-0.811				
0.583	-0.366	0.500	-0.773			0.417	-0.779				
0.667	-0.367	0.583	-0.741			0.500	-0.741				
0.750	-0.361	0.667	-0.716			0.583	-0.716				
0.833	-0.354	0.750	-0.690			0.667	-0.694				
0.917	-0.342	0.833	-0.665			0.750	-0.652				
1.000	-0.335	0.917	-0.640			0.833	-0.633				
1.083	-0.329	1.000	-0.621			0.917	-0.608				
1.167	-0.323	1.083	-0.608			1.000	-0.595				
1.250	-0.304	1.167	-0.589			1.083	-0.570				
1.417	-0.297	1.250	-0.570			1.167	-0.557				
1.500	-0.278	1.333	-0.557			1.250	-0.545				
1.667	-0.285	1.417	-0.545			1.333	-0.532				
1.750	-0.266	1.500	-0.532			1.417	-0.526				
2.000	-0.247	1.583	-0.519			1.500	-0.494				
3.000	-0.132	1.667	-0.513			1.583	-0.481				
3.500	-0.171	1.750	-0.494			1.750	-0.462				
4.000	-0.145	1.833	-0.487			1.833	-0.456				
4.500	-0.133	1.917	-0.468			1.917	-0.443				
5.000	-0.100	2.000	-0.460			2.000	-0.433				
5.500	-0.107	2.500	-0.456			2.500	-0.373				
6.000	-0.095	3.000	-0.361			3.000	-0.323				
6.500	-0.092	3.500	-0.316			3.500	-0.291				
7.000	-0.076	4.000	-0.276			4.000	-0.253				
7.500	-0.060	4.500	-0.247			4.500	-0.221				
8.000	-0.057	5.000	-0.221			5.000	-0.196				
8.500	-0.050										
9.500	-0.044										
10.000	-0.038										
12.000	-0.025										
14.000	-0.010										
16.000	-0.005										
18.000	0.000										

K=0.6E-4 CM/SEC

ELN-89-04A



WELL EDN-83-04A

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

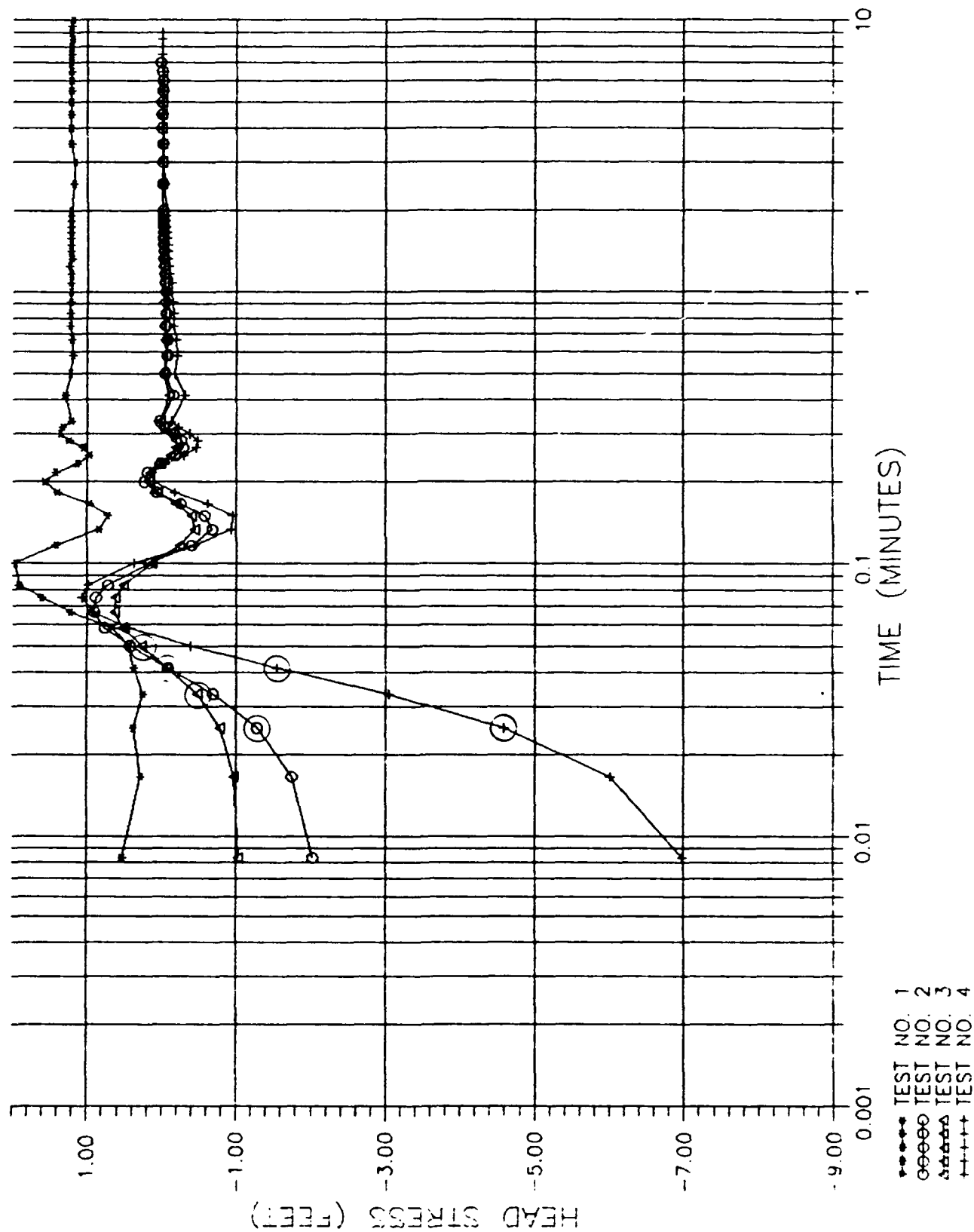
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.025	-1.407	0.025	-2.284	0.025	-2.169
0.033	-1.729	0.033	-2.391	0.033	-1.709
0.042	-1.695	0.042	-1.937	0.042	-1.406
0.050	-1.363	0.050	-1.584	0.050	-1.185
0.058	-1.129	0.058	-1.339	0.058	-1.002
0.067	-0.934	0.067	-1.142	0.067	-0.826
0.075	-0.751	0.075	-0.954	0.075	-0.668
0.083	-0.600	0.083	-0.850	0.083	-0.555
0.100	-0.417	0.100	-0.650	0.100	-0.410
0.117	-0.316	0.117	-0.467	0.117	-0.321
0.133	-0.246	0.133	-0.360	0.133	-0.258
0.150	-0.202	0.150	-0.291	0.150	-0.214
0.167	-0.171	0.167	-0.246	0.167	-0.183
0.183	-0.146	0.183	-0.209	0.183	-0.157
0.200	-0.127	0.200	-0.183	0.200	-0.145
0.217	-0.064	0.217	-0.164	0.217	-0.125
0.233	-0.076	0.233	-0.146	0.233	-0.113
0.267	-0.070	0.250	-0.133	0.250	-0.101
0.283	-0.064	0.267	-0.120	0.267	-0.094
0.317	-0.057	0.283	-0.114	0.283	-0.088
0.333	-0.051	0.300	-0.101	0.300	-0.082
0.417	-0.038	0.317	-0.095	0.317	-0.075
0.500	-0.032	0.333	-0.089	0.333	-0.069
0.583	-0.026	0.417	-0.064	0.417	-0.050
0.667	-0.019	0.500	-0.051	0.500	-0.037
0.750	-0.013	0.583	-0.038	0.583	-0.031
1.083	-0.007	0.667	-0.032	0.667	-0.025
		0.833	-0.026	0.750	-0.019
		0.917	-0.019	0.917	-0.012
		1.167	-0.013	1.167	-0.006
		1.583	-0.007	1.833	0.000
		3.500	0.012	3.500	0.007
		4.000	-0.007	4.000	0.050
		4.500	0.000		
		6.500	0.006		

K=3.7E-2 CM/SEC

K=3.6E-2 CM/SEC

K=3.5E-2 CM/SEC

ELN-89-04B



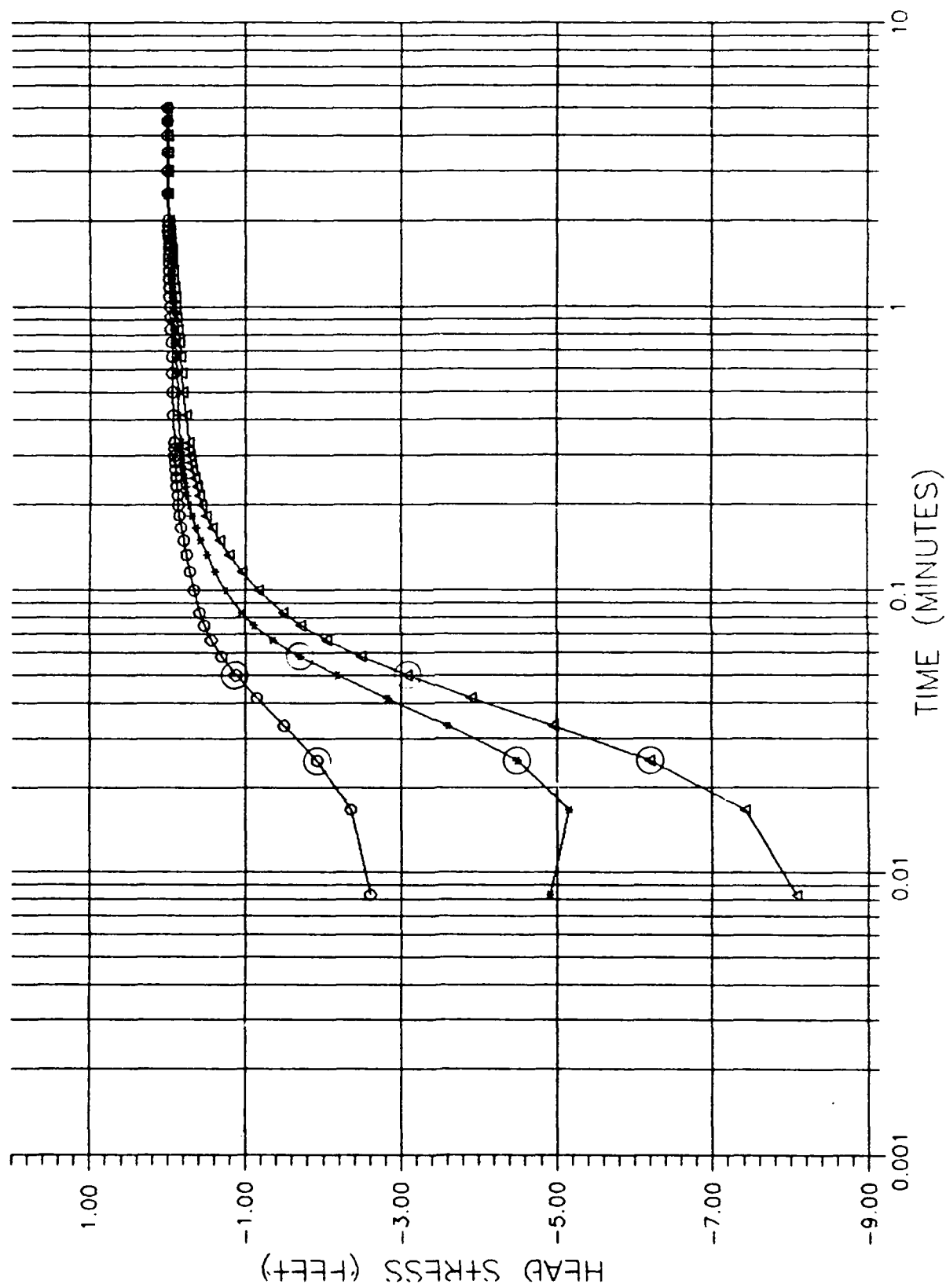
WELL SN-88-045
WELL DIAMETER=0.8125 FT. SCREEN LENGTH=12 FT. BORING DIAMETER=1.75 FT.

TEST 1		TEST 2		TEST 3		TEST 4	
TIME MIN	HEAD FEET	TIME MIN	HEAD FEET	TIME MIN	HEAD FEET	TIME MIN	HEAD FEET
0.008	0.529	0.008	-0.030	0.008	-1.034	0.008	-6.975
0.017	0.283	0.017	-1.747	0.017	-0.971	0.017	-6.017
0.025	0.378	0.025	-1.286	0.025	-0.782	0.025	-4.588
0.033	0.252	0.033	-0.687	0.033	-0.473	0.033	-0.082
0.042	0.372	0.042	-0.088	0.042	-0.069	0.042	-1.545
0.050	0.447	0.050	0.428	0.050	0.277	0.050	-0.384
0.058	0.666	0.058	0.769	0.058	0.538	0.058	0.435
0.067	1.223	0.067	0.908	0.067	0.643	0.067	0.927
0.075	1.608	0.075	0.883	0.075	0.624	0.075	1.072
0.083	1.911	0.083	0.725	0.083	0.510	0.083	0.996
0.100	1.961	0.100	0.170	0.100	0.138	0.100	0.384
0.117	1.410	0.117	-0.397	0.117	-0.239	0.117	-0.435
0.133	0.838	0.133	-0.681	0.133	-0.447	0.133	-0.939
0.150	0.719	0.150	-0.580	0.150	-0.403	0.150	-0.959
0.167	0.971	0.167	-0.252	0.167	-0.182	0.167	-0.611
0.183	1.400	0.183	0.075	0.183	0.050	0.183	-0.176
0.200	1.570	0.200	0.239	0.200	0.176	0.200	0.107
0.217	1.425	0.217	0.195	0.217	0.157	0.217	0.126
0.233	1.135	0.233	0.018	0.233	0.027	0.233	-0.050
0.250	0.977	0.250	-0.180	0.250	-0.107	0.250	-0.290
0.267	1.059	0.267	-0.283	0.267	-0.139	0.267	-0.460
0.283	1.248	0.283	-0.258	0.283	-0.182	0.283	-0.473
0.300	1.368	0.300	-0.157	0.300	-0.107	0.300	-0.372
0.317	1.337	0.317	-0.031	0.317	-0.018	0.317	-0.220
0.333	1.217	0.333	0.031	0.333	0.031	0.333	-0.119
0.417	1.232	0.417	-0.151	0.417	-0.100	0.417	-0.309
0.500	1.223	0.500	-0.037	0.500	-0.018	0.500	-0.170
0.583	1.198	0.583	-0.069	0.583	-0.044	0.583	-0.208
0.667	1.210	0.750	-0.050	0.667	-0.037	0.667	-0.192
0.750	1.223	0.833	-0.056	0.750	-0.031	0.750	-0.157
0.833	1.229	0.917	-0.050	0.833	-0.025	0.833	-0.151
1.000	1.223	1.000	-0.044	1.167	-0.018	0.917	-0.138
1.250	1.242	1.083	-0.037	1.250	-0.025	1.000	-0.126
1.333	1.217	1.167	-0.031	1.333	-0.012	1.083	-0.119
1.417	1.223	1.333	-0.025	1.917	-0.006	1.167	-0.100
1.500	1.229	1.500	-0.018			1.250	-0.094
1.583	1.223	1.833	-0.012	K=8.85-2 CM/SEC		1.333	-0.088
1.917	1.229	2.500	-0.006			1.417	-0.075
2.000	1.223	4.000	0.000			1.583	-0.059
2.500	1.179	5.500	-0.006			1.667	-0.063
3.000	1.166	6.500	0.000			1.750	-0.056
3.500	1.217	7.000	0.012			1.833	-0.050
4.500	1.204					2.000	-0.044
5.000	1.203	K=2.85-1 CM/SEC				2.500	-0.031
5.500	1.210					3.000	-0.025
6.000	1.199					3.500	-0.018
6.500	1.210					4.000	-0.025
						4.500	-0.013
						7.000	-0.010

K=4.6E-2

K=1.1E-1 CM/SEC

ELN-89-06B



oooo TEST NO. 1
- - - - TEST NO. 2
ΔΔΔΔ TEST NO. 3

WELL DIA-9.000 FT. SCREEN LENGTH-10 FT. BOPING DIAMETER-0.75 FT.

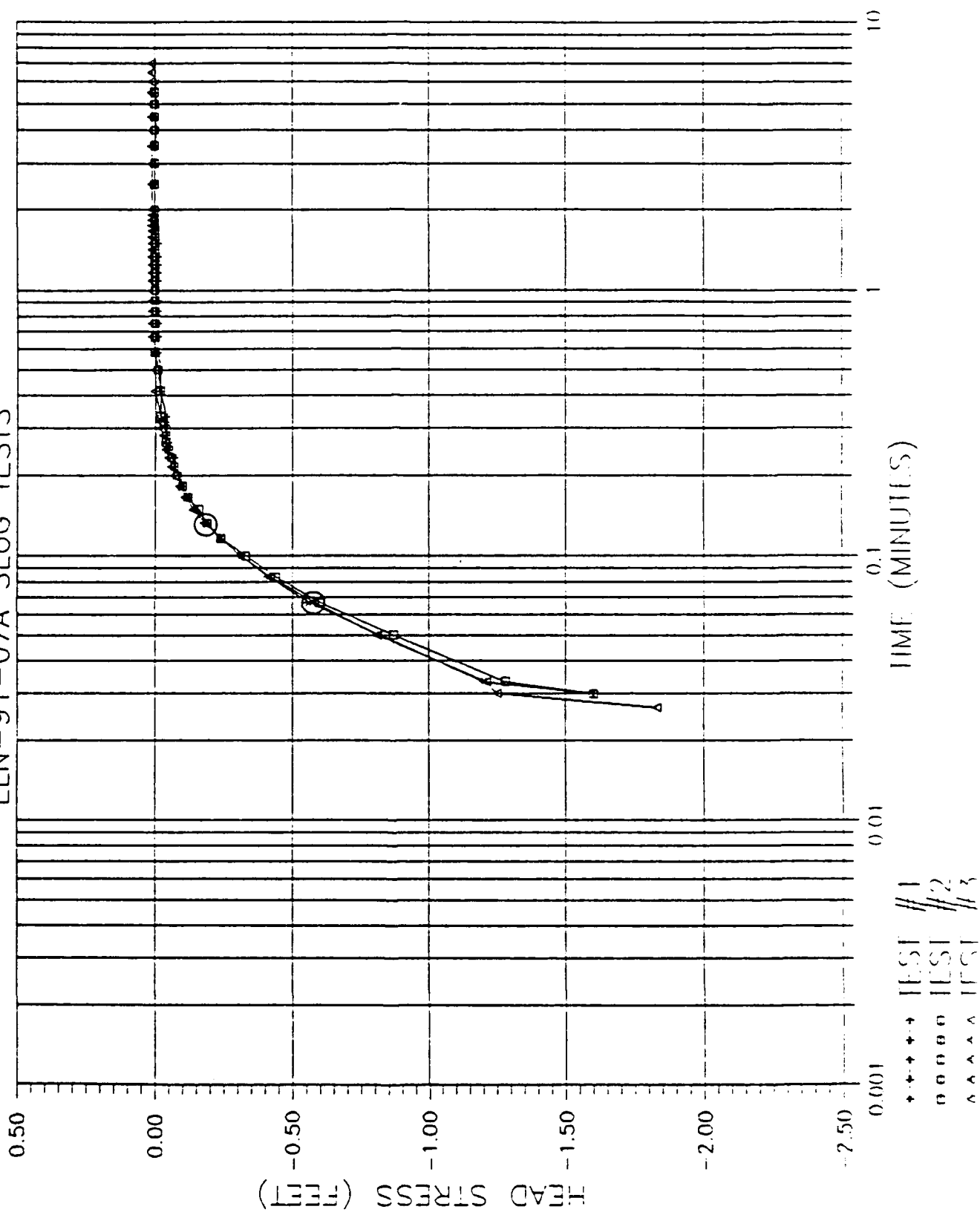
TEST 1		TEST 2		TEST 3	
TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET	TIME MIN.	HEAD FEET
0.008	-2.604	0.008	-4.913	0.008	-2.085
0.017	-2.352	0.017	-5.159	0.017	-7.409
0.025	-1.923	0.025	-4.497	0.025	-6.123
0.033	-1.501	0.033	-3.637	0.033	-4.957
0.042	-1.147	0.042	-2.825	0.042	-3.897
0.050	-0.875	0.050	-2.182	0.050	-3.077
0.058	-0.627	0.058	-1.690	0.058	-2.478
0.067	-0.555	0.067	-1.349	0.067	-2.042
0.075	-0.473	0.075	-1.110	0.075	-1.701
0.083	-0.416	0.083	-0.950	0.083	-1.493
0.100	-0.340	0.100	-0.744	0.100	-1.166
0.117	-0.283	0.117	-0.605	0.117	-0.952
0.133	-0.239	0.133	-0.504	0.133	-0.782
0.150	-0.201	0.150	-0.416	0.150	-0.662
0.167	-0.170	0.167	-0.359	0.167	-0.567
0.183	-0.145	0.183	-0.309	0.183	-0.491
0.200	-0.132	0.200	-0.271	0.200	-0.441
0.217	-0.119	0.217	-0.245	0.217	-0.397
0.233	-0.107	0.233	-0.227	0.233	-0.365
0.250	-0.100	0.250	-0.208	0.250	-0.340
0.267	-0.094	0.267	-0.195	0.267	-0.315
0.283	-0.088	0.283	-0.182	0.283	-0.296
0.300	-0.081	0.300	-0.170	0.300	-0.283
0.317	-0.075	0.317	-0.163	0.317	-0.271
0.417	-0.063	0.333	-0.157	0.333	-0.258
0.500	-0.056	0.417	-0.132	0.417	-0.227
0.583	-0.044	0.500	-0.119	0.500	-0.195
0.750	-0.037	0.583	-0.107	0.583	-0.176
0.833	-0.031	0.667	-0.094	0.667	-0.157
0.917	-0.025	0.750	-0.082	0.750	-0.145
1.000	-0.019	0.833	-0.075	0.833	-0.126
1.083	-0.012	0.917	-0.069	0.917	-0.110
1.417	-0.006	1.000	-0.063	1.000	-0.100
1.750	0.000	1.083	-0.050	1.083	-0.094
2.500	0.006	1.250	-0.044	1.167	-0.081
		1.333	-0.037	1.250	-0.069
		1.500	-0.031	1.333	-0.063
		1.583	-0.025	1.417	-0.056
		1.750	-0.019	1.500	-0.050
		2.000	-0.012	1.583	-0.044
		2.500	-0.006	1.667	-0.037
		3.500	0.000	1.750	-0.031
				1.917	-0.025
				2.100	-0.008
				3.000	0.000
				4.500	0.006

K=5.6E-2 CM/SEC

K=5.25E-2 CM/SEC

K=5.0E-2 CM/SEC

ELN-91-07A SLUG TESTS



WELL ELN-91-37A

WELL DIAMETER=0.3125FT. SCREEN LENGTH=15FT. BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3	
MINUTES	FEET	MINUTES	FEET	MINUTES	FEET
0.0033	-0.02	0.0033	-0.01	0.0033	0
0.0066	-0.02	0.0066	-0.01	0.0066	-0.22
0.0099	-0.05	0.0099	-0.29	0.0099	-1.28
0.0133	-0.12	0.0133	-1.45	0.0133	-1.43
0.0166	-0.96	0.0166	-1.74	0.0166	-1.2
0.02	-1.21	0.02	-0.42	0.02	-0.41
0.0233	-0.86	0.0233	-0.27	0.0233	-0.29
0.0266	-0.96	0.0266	-1.28	0.0266	-1.63
0.03	-1.6	0.03	-1.6	0.03	-1.25
0.0333	-1.2	0.0333	-1.28	0.0333	-1.21
0.05	-0.82	0.05	-0.87	0.05	-0.81
0.0666	-0.56	0.0666	-0.6	0.0666	-0.56
0.0833	-0.41	0.0833	-0.44	0.0833	-0.42
0.1	-0.31	0.1	-0.33	0.1	-0.31
0.1166	-0.24	0.1166	-0.24	0.1166	-0.24
0.1333	-0.19	0.1333	-0.19	0.1333	-0.18
0.15	-0.15	0.15	-0.16	0.15	-0.14
0.1666	-0.12	0.1666	-0.12	0.1666	-0.11
0.1833	-0.1	0.1833	-0.1	0.1833	-0.09
0.2	-0.09	0.2	-0.08	0.2	-0.07
0.2166	-0.07	0.2166	-0.07	0.2166	-0.06
0.2333	-0.07	0.2333	-0.06	0.2333	-0.05
0.25	-0.05	0.25	-0.05	0.25	-0.04
0.2666	-0.05	0.2666	-0.04	0.2666	-0.04
0.2833	-0.04	0.2833	-0.04	0.2833	-0.03
0.3	-0.04	0.3	-0.04	0.3	-0.02
0.3166	-0.04	0.3166	-0.03	0.3166	-0.02
0.3333	-0.04	0.3333	-0.02	0.3333	-0.02
0.4167	-0.02	0.4167	-0.02	0.4167	0
0.5	-0.02	0.5	-0.01	0.5	0
0.5833	-0.01	0.5833	0	0.5833	0
0.6667	-0.01	0.6667	0	0.6667	0.01
0.75	-0.01	0.75	0	0.75	0.01
0.8333	-0.01	0.8333	0	0.8333	0.01
0.9167	-0.01	0.9167	0	0.9167	0.01
1	-0.01	1	0	1	0.01
1.0833	-0.01	1.0833	0	1.0833	0.01
1.1667	-0.01	1.1667	0	1.1667	0.01
1.25	-0.01	1.25	0	1.25	0.01
1.3333	-0.01	1.3333	0	1.3333	0.01
1.4166	0	1.4166	0	1.4166	0.01
1.5	-0.01	1.5	0	1.5	0.01
1.5833	0	1.5833	0	1.5833	0.01
1.6667	0	1.6667	0	1.6667	0.01
1.75	0	1.75	0	1.75	0.01
1.8333	0	1.8333	0	1.8333	0.01
1.9167	0	1.9167	0	1.9167	0.01
2	0	2	0	2	0.01
2.5	0	2.5	0	2.5	0.01
3	0	3	0	3	0.01
3.5	0	3.5	0	3.5	0.01
4	-0.01	4	0	4	0.01
4.5	0	4.5	0	4.5	0.01
5	-0.01	5	0	5	0.01
5.5	0	5.5	0	5.5	0.01
6	-0.01			6	0.01
				6.5	0.01
				7	0.01

HVORSLEV

K = 0.005 CM/SEC

BOUWER AND RICE

K = 0.027 CM/SEC

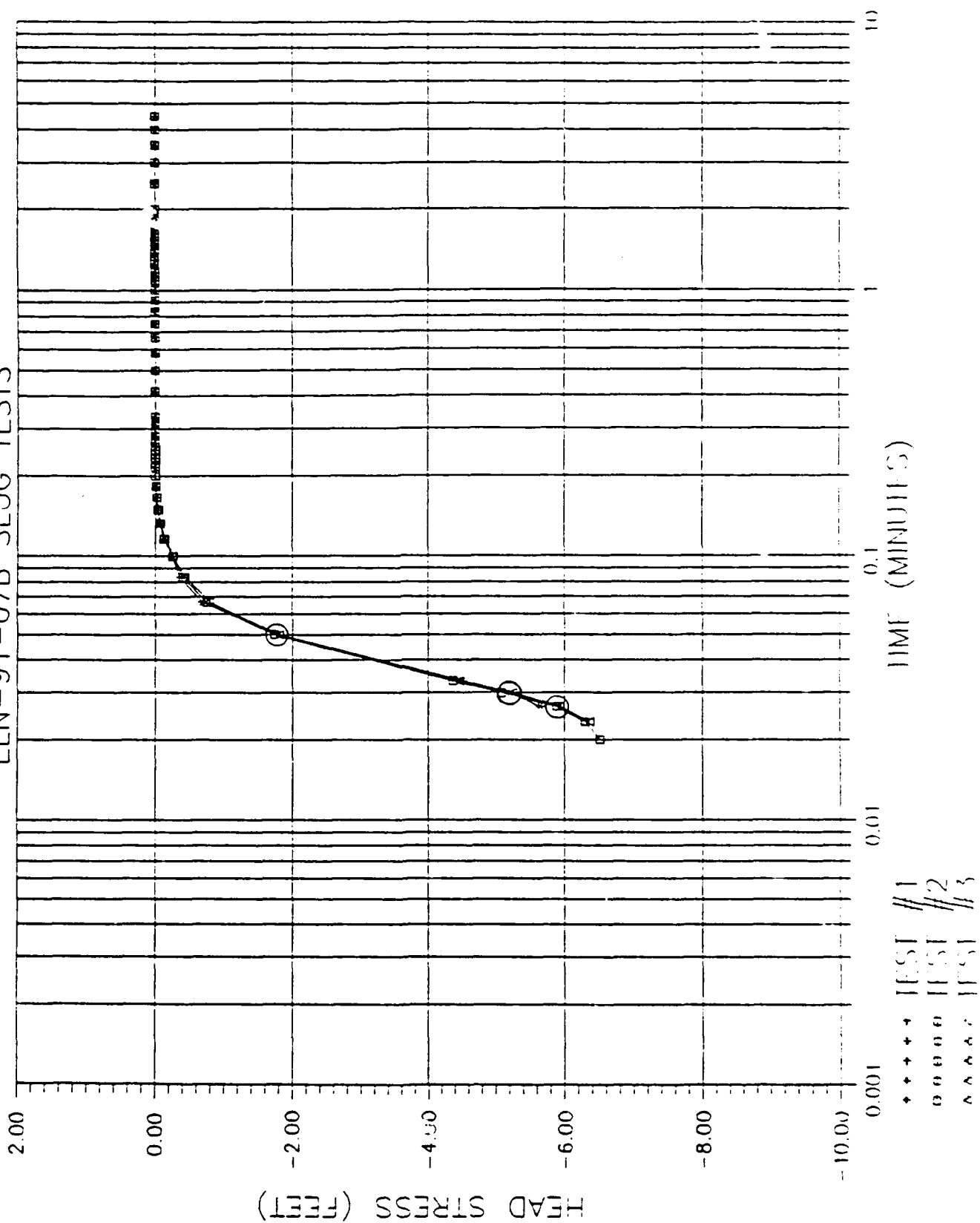
K = 0.005 CM/SEC

K = 0.021 CM/SEC

K = 0.005 CM/SEC

K = 0.024 CM/SEC

ELN-91-07B SLUG TESTS



WELL ELN-01-078
WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3	
MINUTES	FEET	MINUTES	FEET	MINUTES	FEET
0.0033	0.01	0.0033	0.02	0.0033	0.02
0.0066	0.01	0.0066	0.02	0.0066	0.02
0.0099	0.01	0.0099	-1.18	0.0099	-1.02
0.0133	-0.84	0.0133	-1.34	0.0133	-1.17
0.0166	-2.84	0.0166	-6.59	0.0166	-6.19
0.02	-4.94	0.02	-8.51	0.02	-8.38
0.0233	-6.53	0.0233	-8.29	0.0233	-8.38
0.0266	-6.84	0.0266	-8.88	0.0266	-8.93
0.03	-5.2	0.03	-6.07	0.03	-6.24
0.0333	-4.51	0.0333	-4.38	0.0333	-4.46
0.05	-1.79	0.05	-1.74	0.05	-1.82
0.0666	-0.69	0.0666	-0.75	0.0666	-0.8
0.0833	-0.37	0.0833	-0.41	0.0833	-0.44
0.1	-0.23	0.1	-0.25	0.1	-0.28
0.1166	-0.13	0.1166	-0.13	0.1166	-0.15
0.1333	-0.07	0.1333	-0.07	0.1333	-0.08
0.15	-0.03	0.15	-0.03	0.15	-0.05
0.1666	-0.02	0.1666	-0.02	0.1666	-0.03
0.1833	-0.01	0.1833	-0.01	0.1833	-0.01
0.2	0	0.2	0	0.2	-0.01
0.2166	0	0.2166	0	0.2166	-0.01
0.2333	0	0.2333	0	0.2333	-0.01
0.25	0	0.25	0	0.25	-0.01
0.2666	0	0.2666	0	0.2666	0
0.2833	0	0.2833	0	0.2833	0
0.3	0	0.3	0	0.3	0
0.3166	0	0.3166	0	0.3166	0
0.3333	0	0.3333	0	0.3333	0
0.4167	0	0.4167	0	0.4167	0
0.5	0	0.5	0	0.5	0
0.5833	0	0.5833	0	0.5833	0
0.6667	0	0.6667	0	0.6667	0
0.75	0	0.75	0	0.75	0
0.8333	0	0.8333	0	0.8333	0
0.9167	0	0.9167	0	0.9167	0
1	0	1	0	1	0
1.0833	0	1.0833	0	1.0833	0
1.1667	0	1.1667	0	1.1667	0
1.25	0	1.25	0.01	1.25	0
1.3333	0	1.3333	0.01	1.3333	0
1.4166	0	1.4166	0	1.4166	0
1.5	0	1.5	0	1.5	0
1.5833	0	1.5833	0	1.5833	0
1.6667	0	1.6667	0	1.6667	0
1.75	0	1.75	0	1.75	0
1.8333	0	1.8333	0	1.8333	0
1.9167	0	1.9167	0	1.9167	0
2	0	2	0	2	0
2.5	0	2.5	0	2.5	0
3	0	3	0	3	0
3.5	0	3.5	0	3.5	0
4	0	4	0	4	0
4.5	0	4.5	0		

HYDRAULEIC

K = 0.015 CM/SEC

BOUWER AND RICE:

K = 0.056 CM/SEC

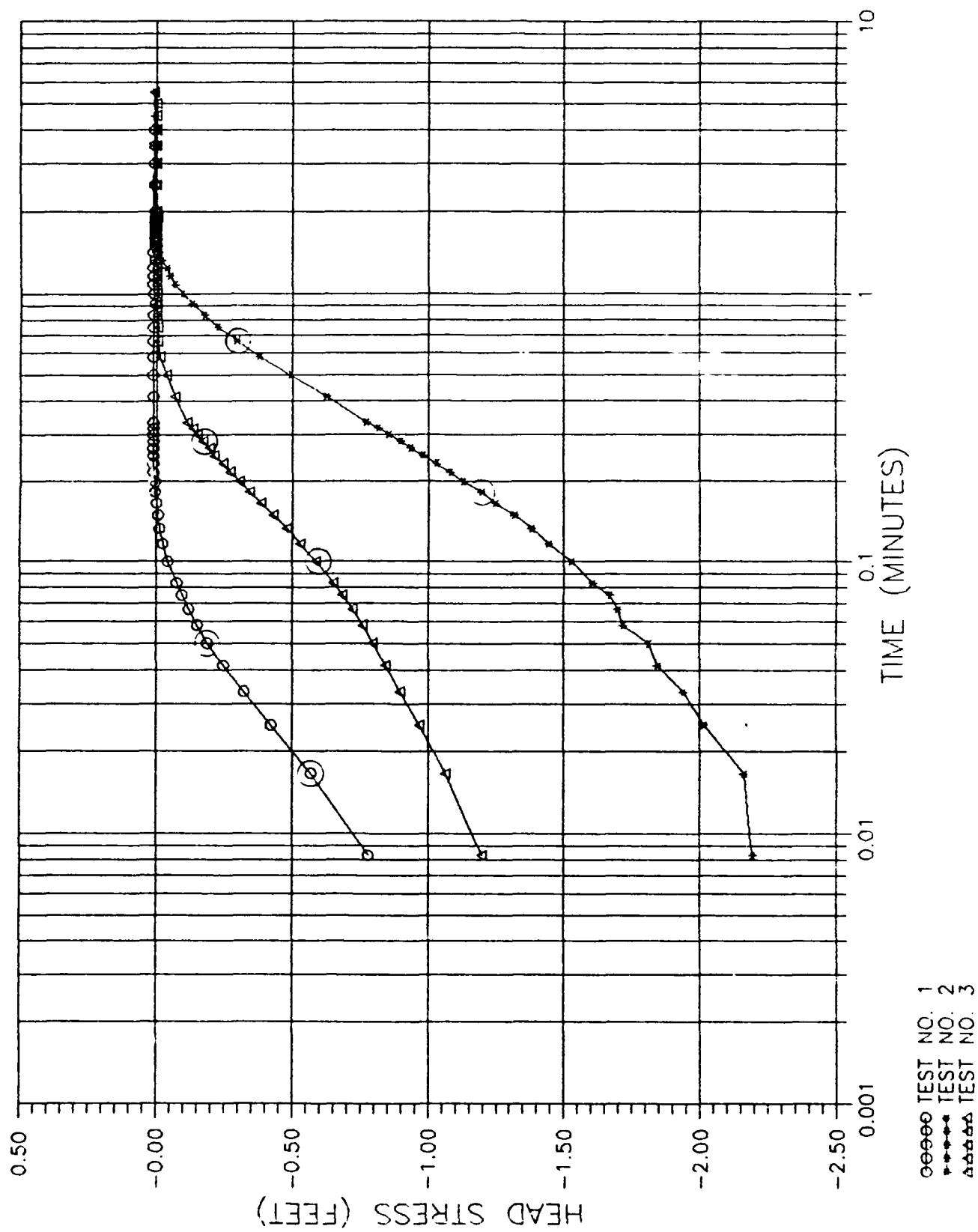
K = 0.015 CM/SEC

K = 0.052 CM/SEC

K = 0.014 CM/SEC

K = 0.053 CM/SEC

S1153



WELL 31167

WELL DIAMETER=0.010FT. SCREEN LENGTH=10FT. BOSING DIAMETER=0.007FT

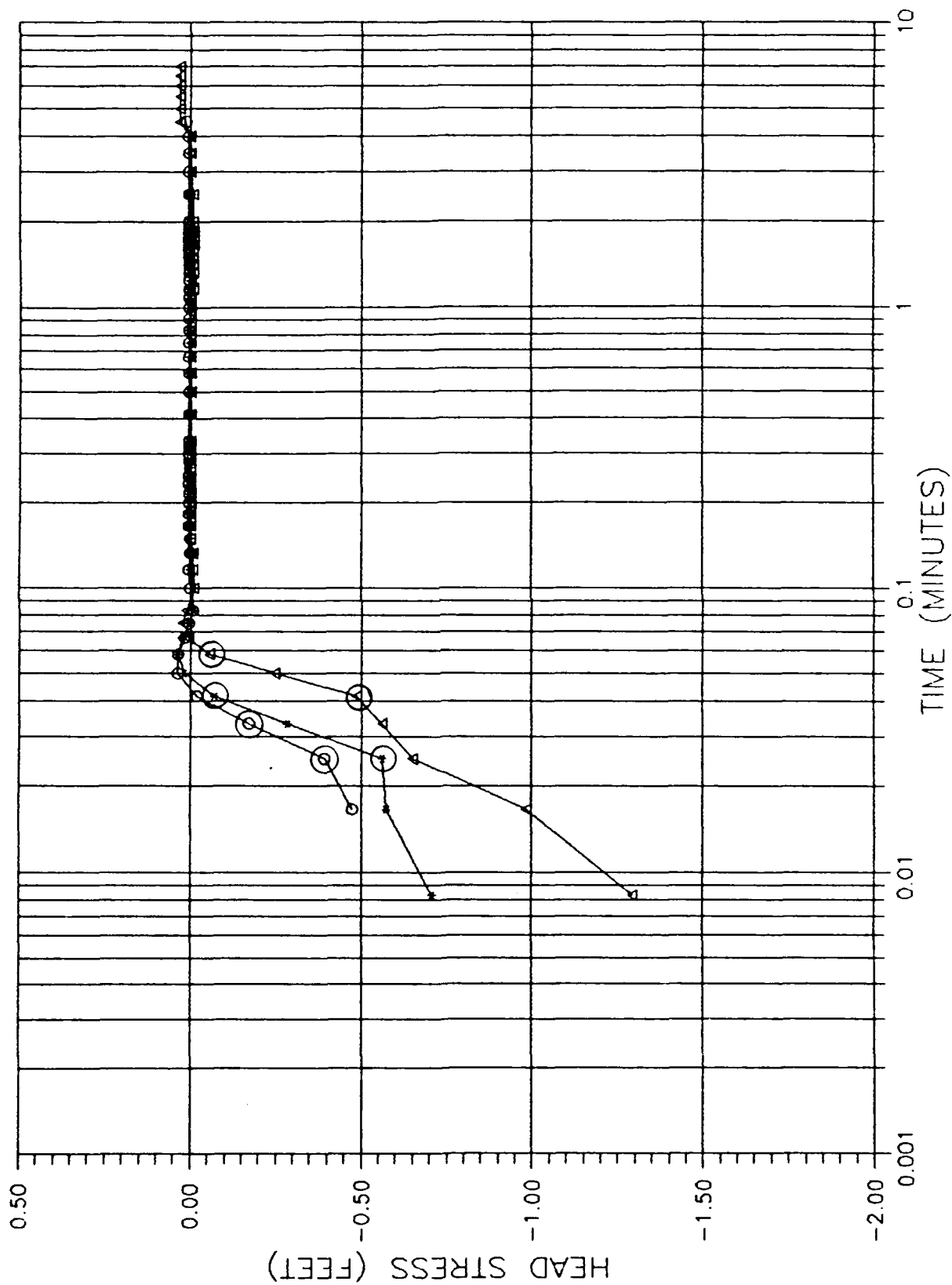
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.779	0.008	-2.192	0.008	-1.197
0.017	-0.570	0.017	-2.161	0.017	-1.054
0.025	-0.424	0.025	-2.015	0.025	-0.969
0.033	-0.223	0.033	-1.939	0.033	-0.899
0.042	-0.247	0.042	-1.844	0.042	-0.842
0.050	-0.190	0.050	-1.812	0.050	-0.798
0.058	-0.152	0.058	-1.717	0.058	-0.760
0.067	-0.120	0.067	-1.698	0.067	-0.722
0.075	-0.095	0.075	-1.666	0.075	-0.684
0.083	-0.076	0.083	-1.602	0.083	-0.652
0.100	-0.044	0.100	-1.527	0.100	-0.539
0.117	-0.025	0.117	-1.444	0.117	-0.532
0.133	-0.012	0.133	-1.381	0.133	-0.481
0.150	-0.006	0.150	-1.318	0.150	-0.430
0.167	0.000	0.167	-1.248	0.167	-0.386
0.183	0.006	0.183	-1.187	0.183	-0.342
0.217	0.012	0.200	-1.128	0.200	-0.304
0.317	0.006	0.217	-1.083	0.217	-0.272
1.000	0.012	0.233	-1.033	0.233	-0.247
1.333	0.006	0.250	-0.982	0.250	-0.215
1.417	0.012	0.267	-0.937	0.267	-0.196
1.500	0.006	0.283	-0.899	0.283	-0.171
		0.300	-0.855	0.300	-0.152
		0.317	-0.817	0.317	-0.133
		0.333	-0.772	0.333	-0.114
		0.417	-0.627	0.417	-0.069
		0.500	-0.494	0.500	-0.038
		0.583	-0.380	0.583	-0.012
		0.667	-0.297	0.667	-0.006
		0.750	-0.228	0.833	0.000
		0.833	-0.177	0.917	0.000
		0.917	-0.133	1.000	0.000
		1.000	-0.095	1.083	0.000
		1.083	-0.069	1.167	0.000
		1.167	-0.050	1.250	0.000
		1.250	-0.038	1.333	0.000
		1.333	-0.019	1.417	0.000
		1.417	-0.012	1.500	0.000
		1.500	-0.006	1.583	0.000
		1.667	0.000	1.667	0.000
		1.750	0.000	1.750	0.000
		1.833	0.006	1.833	0.000
		2.000	0.012	1.917	-0.006
		3.000	0.006	2.000	0.000
				2.500	0.000
				3.000	0.000
				3.500	0.000
				4.000	0.000
				4.500	0.000
				5.000	0.000
				5.500	0.006

K=5.9E-2 CM/SEC

K=5.1E-3 CM/SEC

K=1.2E-2 CM/SEC

RPM-89--01



WELL RPM-89-01

WELL DIAMETER=0.2125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

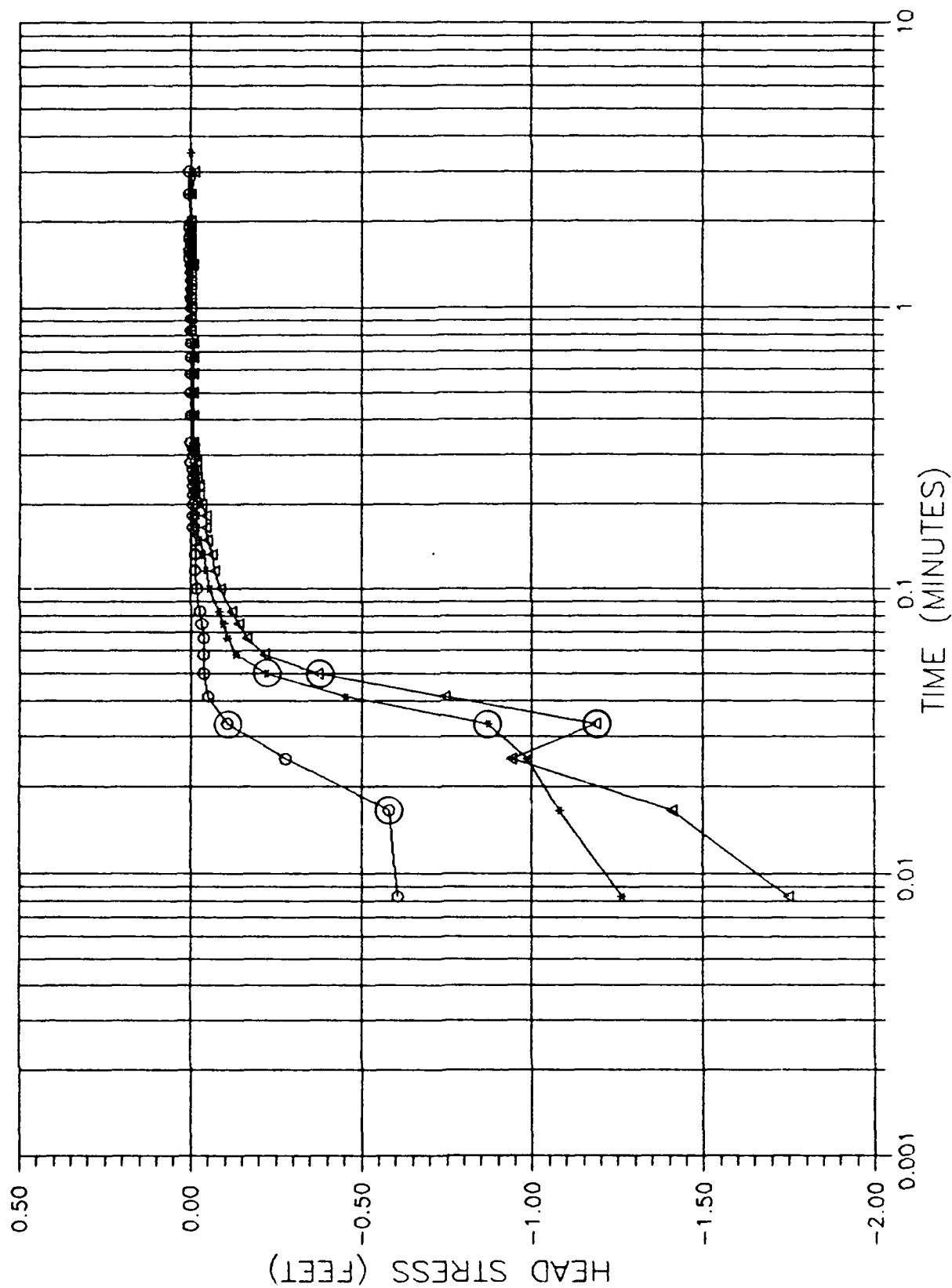
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.017	-0.474	0.008	-0.707	0.008	-1.293
<u>0.025</u>	<u>-0.392</u>	0.017	-0.574	0.017	-0.984
<u>0.033</u>	<u>-0.321</u>	<u>0.025</u>	<u>-0.562</u>	0.025	-0.650
0.041	-0.019	0.033	-0.284	0.033	-0.562
0.050	0.037	<u>0.042</u>	<u>-0.070</u>	<u>0.042</u>	<u>-0.486</u>
0.067	0.018	0.050	0.018	0.050	-0.246
0.075	0.006	0.058	0.037	<u>0.058</u>	<u>-0.057</u>
0.083	-0.007	0.067	0.025	0.067	0.006
0.100	0.000	0.075	0.006	0.075	0.025
0.117	0.006	0.083	-0.007	0.083	0.012
0.133	0.000	0.117	0.000	0.100	-0.013
0.150	0.000	0.133	0.006	0.117	-0.007
0.167	0.006	0.667	0.000	0.150	0.000
0.267	0.000	0.750	0.000	0.167	0.000
0.283	0.006	0.833	0.006	0.183	0.000
4.500	0.012	0.917	0.000	0.200	0.000
		1.000	0.006	0.217	0.000
		1.250	0.000	0.233	0.000
		1.333	0.006	0.250	0.000
		1.667	0.000	0.267	0.000
		1.750	0.006	0.283	0.000
		1.833	0.000	0.300	0.000
		1.917	0.006	0.317	0.000
		3.000	0.000	0.333	0.000
				0.417	0.000
				0.500	0.000
				0.583	0.000
				0.667	0.000
				0.750	0.000
				0.833	0.000
				0.917	0.000
				1.000	0.000
				1.083	0.000
				1.167	-0.007
				1.250	0.000
				1.333	-0.007
				1.667	-0.013
				1.917	-0.007
				3.000	0.000
				3.500	0.000
				4.000	0.000
				4.500	0.031

K=1.5E-1 CM/SEC

K=1.9E-1 CM/SEC

K=1.9E-1 CM/SEC

RPM-89-02



ooooo TEST NO. 1
+++++ TEST NO. 2
△△△△△ TEST NO. 3

WELL RPM-89-02

WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

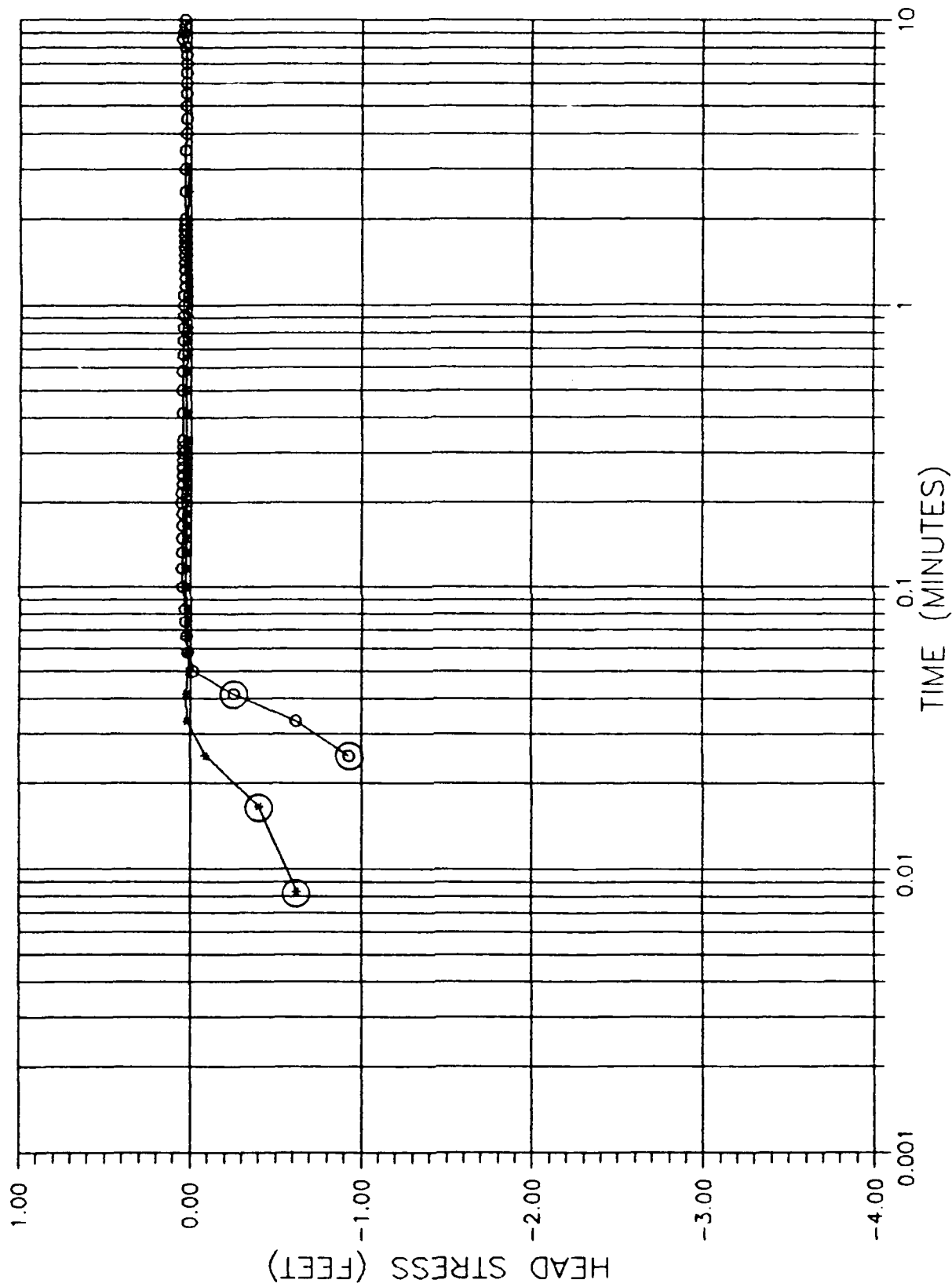
TEST 1		TEST 2		TEST 3	
TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET
0.008	-0.606	0.008	-1.262	0.008	-1.748
<u>0.017</u>	<u>-0.581</u>	0.017	-1.079	0.017	-1.407
0.025	-0.278	0.025	-0.984	0.025	-0.940
<u>0.033</u>	<u>-0.108</u>	<u>0.033</u>	<u>-0.871</u>	<u>0.033</u>	<u>-1.186</u>
0.042	-0.051	0.042	-0.455	0.042	-0.745
0.050	-0.038	<u>0.050</u>	<u>-0.221</u>	<u>0.050</u>	<u>-0.373</u>
0.075	-0.032	0.058	-0.133	0.058	-0.215
0.083	-0.026	0.067	-0.108	0.067	-0.164
0.100	-0.019	0.075	-0.095	0.075	-0.139
0.117	-0.013	0.083	-0.082	0.083	-0.120
0.167	-0.007	0.100	-0.057	0.100	-0.089
0.283	0.000	0.117	-0.045	0.117	-0.070
0.300	-0.007	0.133	-0.038	0.133	-0.064
0.333	0.000	0.150	-0.026	0.150	-0.051
0.417	0.000	0.167	-0.019	0.167	-0.045
0.500	0.000	0.217	-0.013	0.200	-0.032
0.583	0.000	0.283	-0.007	0.217	-0.026
0.667	0.000	0.417	0.000	0.250	-0.019
0.750	0.000	0.500	0.000	0.300	-0.013
0.833	0.000	0.583	0.000	0.333	-0.007
0.917	0.000	0.667	0.000	0.833	0.000
1.000	0.000	0.750	0.000	0.917	0.000
1.083	0.000	0.833	0.000	1.000	0.000
1.167	0.000	0.917	0.000	1.083	0.000
1.250	0.000	1.000	0.000	1.167	0.000
1.333	0.000	1.083	0.000	1.250	0.000
1.417	0.000	1.167	0.000	1.333	0.000
1.500	0.000	1.250	0.000	1.417	-0.007
1.667	0.000	1.333	0.006	1.500	0.000
1.750	0.000	1.417	0.000	1.583	0.000
1.833	0.000	1.500	0.000	1.667	0.000
1.917	0.006	1.583	0.006	1.750	0.000
2.000	0.000	1.667	0.000	1.833	0.000
2.500	0.006	1.750	0.000	1.917	0.000
		1.833	0.000	2.000	0.000
		1.917	0.000	2.500	0.000
		2.000	0.000		
		2.500	0.000		
		3.000	0.000		
		3.500	0.000		

K=1.5E-1 CM/SEC

K=1.0E-1 CM/SEC

K=1.2E-1 CM/SEC

OPM-89-03



***** TEST NO. 1
ooooo TEST NO. 2

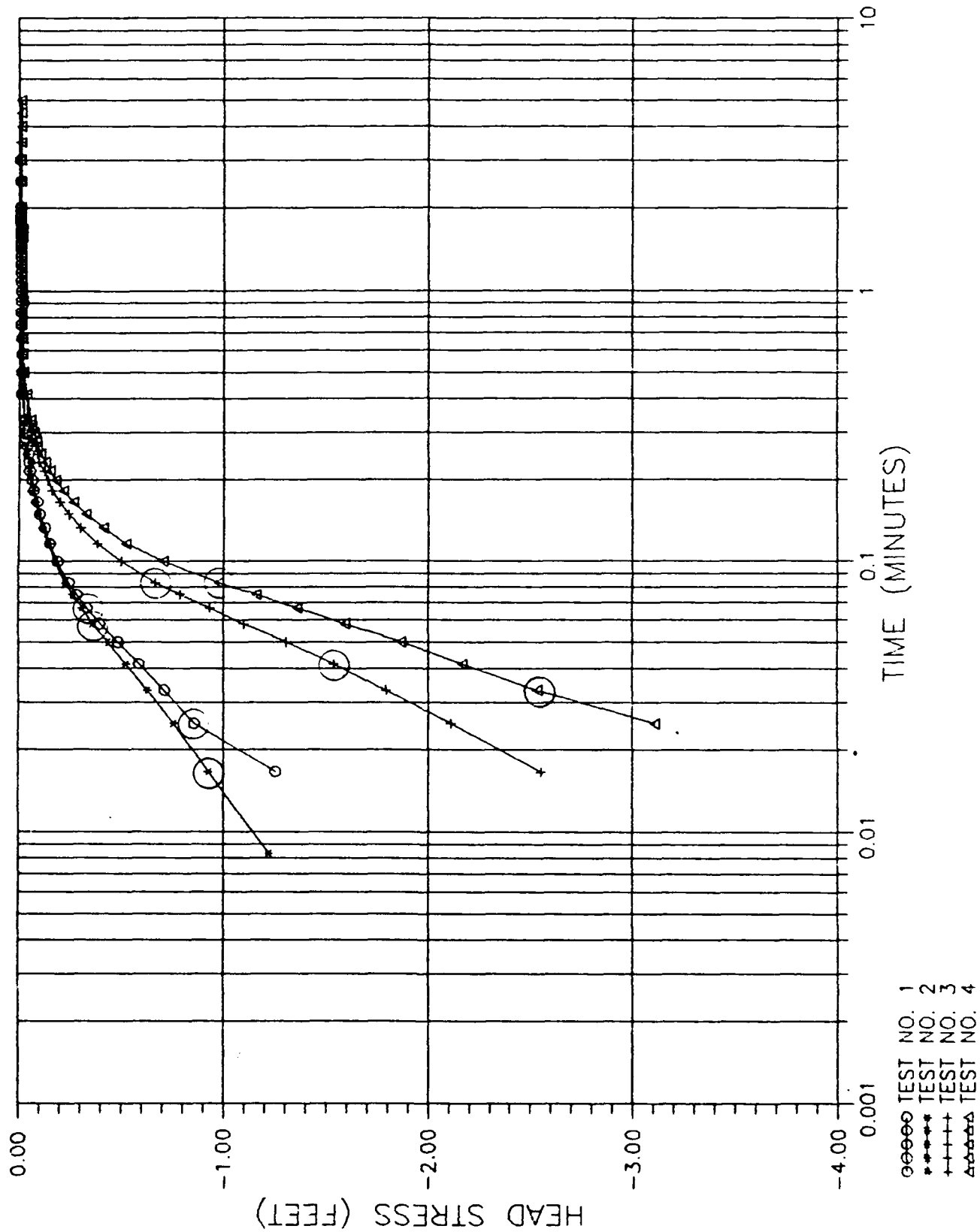
WELL OPM-89-03
 WELL DIAMETER=0.3105FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2	
TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET
0.008	-0.625	0.025	-0.925
0.017	-0.395	0.033	-0.619
0.025	-0.089	0.042	-0.253
0.033	0.018	0.050	-0.013
0.042	0.025	0.058	0.018
0.050	0.012	0.067	0.025
0.058	0.018	0.075	0.031
0.067	0.025	0.083	0.037
0.667	0.018	0.100	0.044
2.500	0.012	0.117	0.050
		0.200	0.056
		0.233	0.050
		0.667	0.044
		1.167	0.037
		2.500	0.031
		4.000	0.025
		8.000	0.031
		8.500	0.050
		9.000	0.044
		9.500	0.037
		11.000	0.025
		12.000	0.018
		15.000	0.012

$K=8.2E-2$ CM/SEC

$K=1.1E-1$ CM/SEC

OAM-89-01



WELL OAM-89-01

WELL DIAMETER=0.3125FT, SCREEN LENGTH=11FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2		TEST 3		TEST 4	
TIME	HEAD	TIME	HEAD	TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET	MIN.	FEET	MIN.	FEET
0.017	-1.256	0.008	-1.224	0.017	-2.555	0.025	-3.097
0.025	-0.858	0.017	-0.928	0.025	-2.113	0.033	-2.523
0.033	-0.713	0.025	-0.757	0.033	-1.798	0.042	-2.157
0.042	-0.587	0.033	-0.631	0.042	-1.539	0.050	-1.854
0.050	-0.486	0.042	-0.524	0.050	-1.306	0.058	-1.533
0.058	-0.399	0.050	-0.436	0.058	-1.104	0.067	-1.350
0.067	-0.335	0.058	-0.360	0.067	-0.934	0.075	-1.148
0.075	-0.284	0.067	-0.310	0.075	-0.789	0.083	-0.965
0.083	-0.246	0.075	-0.265	0.083	-0.669	0.100	-0.694
0.100	-0.190	0.083	-0.228	0.100	-0.499	0.117	-0.511
0.117	-0.152	0.100	-0.177	0.117	-0.385	0.133	-0.397
0.133	-0.127	0.117	-0.146	0.133	-0.303	0.150	-0.315
0.150	-0.101	0.133	-0.114	0.150	-0.246	0.167	-0.252
0.167	-0.089	0.150	-0.095	0.167	-0.202	0.183	-0.202
0.183	-0.070	0.167	-0.082	0.183	-0.164	0.200	-0.164
0.200	-0.064	0.183	-0.070	0.200	-0.139	0.217	-0.139
0.217	-0.051	0.200	-0.057	0.217	-0.120	0.233	-0.113
0.233	-0.045	0.217	-0.051	0.233	-0.095	0.250	-0.094
0.267	-0.038	0.250	-0.038	0.250	-0.089	0.267	-0.075
0.283	-0.032	0.267	-0.032	0.267	-0.076	0.283	-0.069
0.317	-0.026	0.283	-0.039	0.283	-0.064	0.300	-0.057
0.417	-0.013	0.300	-0.032	0.300	-0.057	0.317	-0.050
0.750	-0.007	0.333	-0.026	0.317	-0.051	0.333	-0.044
		0.417	-0.019	0.333	-0.045	0.417	-0.025
		0.500	-0.013	0.417	-0.032	0.500	-0.012
		0.917	-0.007	0.500	-0.019	0.583	-0.006
		1.000	-0.013	0.750	-0.013	0.750	0.000
		1.167	-0.007	1.333	-0.007	0.917	-0.006
				1.417	-0.013	1.000	0.000
				2.500	-0.007	1.583	-0.006
				3.000	-0.013	1.750	0.007
				3.500	-0.007	1.833	0.000
				4.000	-0.013		

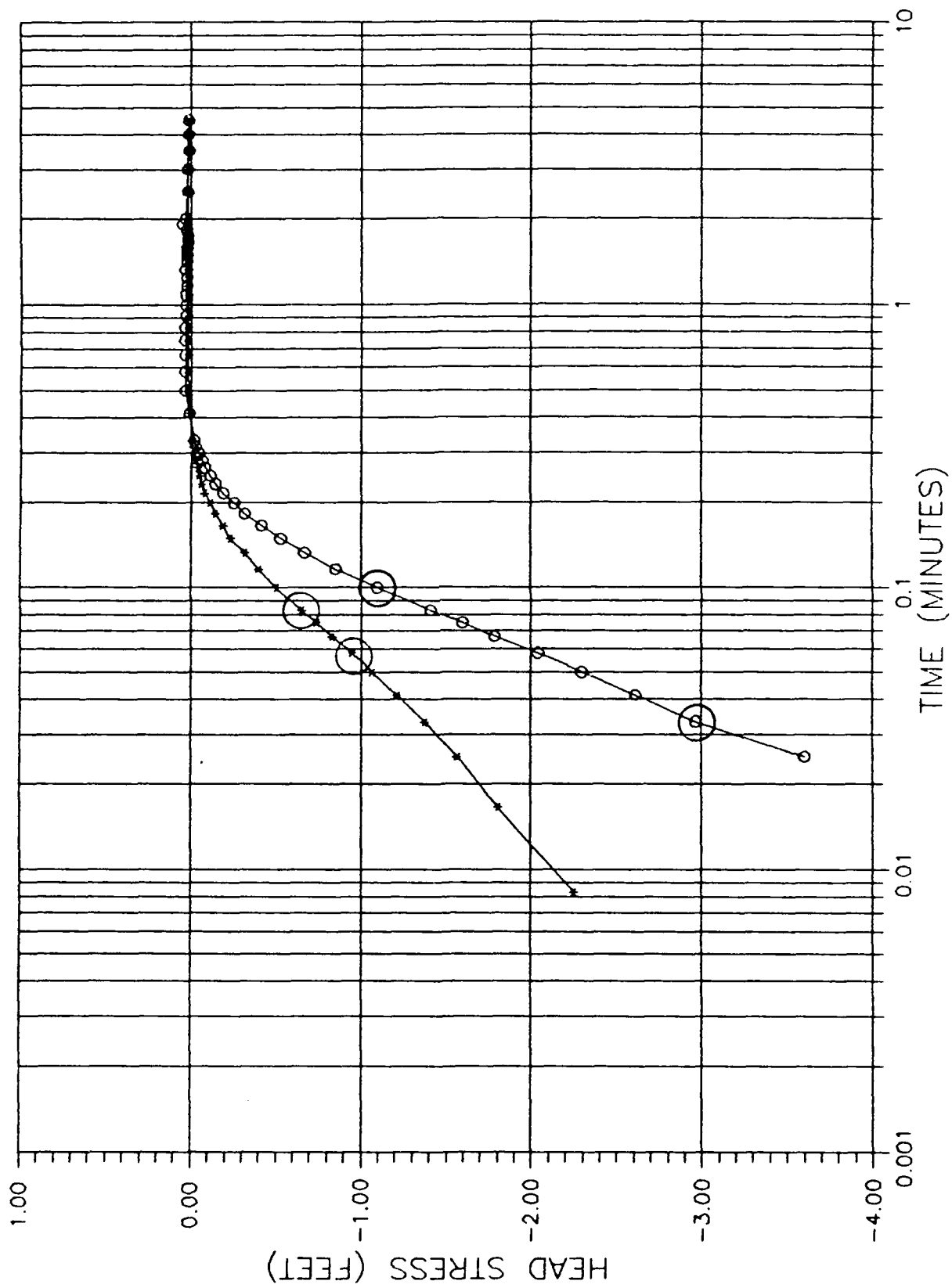
K=3.4E-2 CM/SEC

K=3.4E-2 CM/SEC

K=3.0E-2 CM/SEC

K=3.3E-2 CM/SEC

FTM-89-01



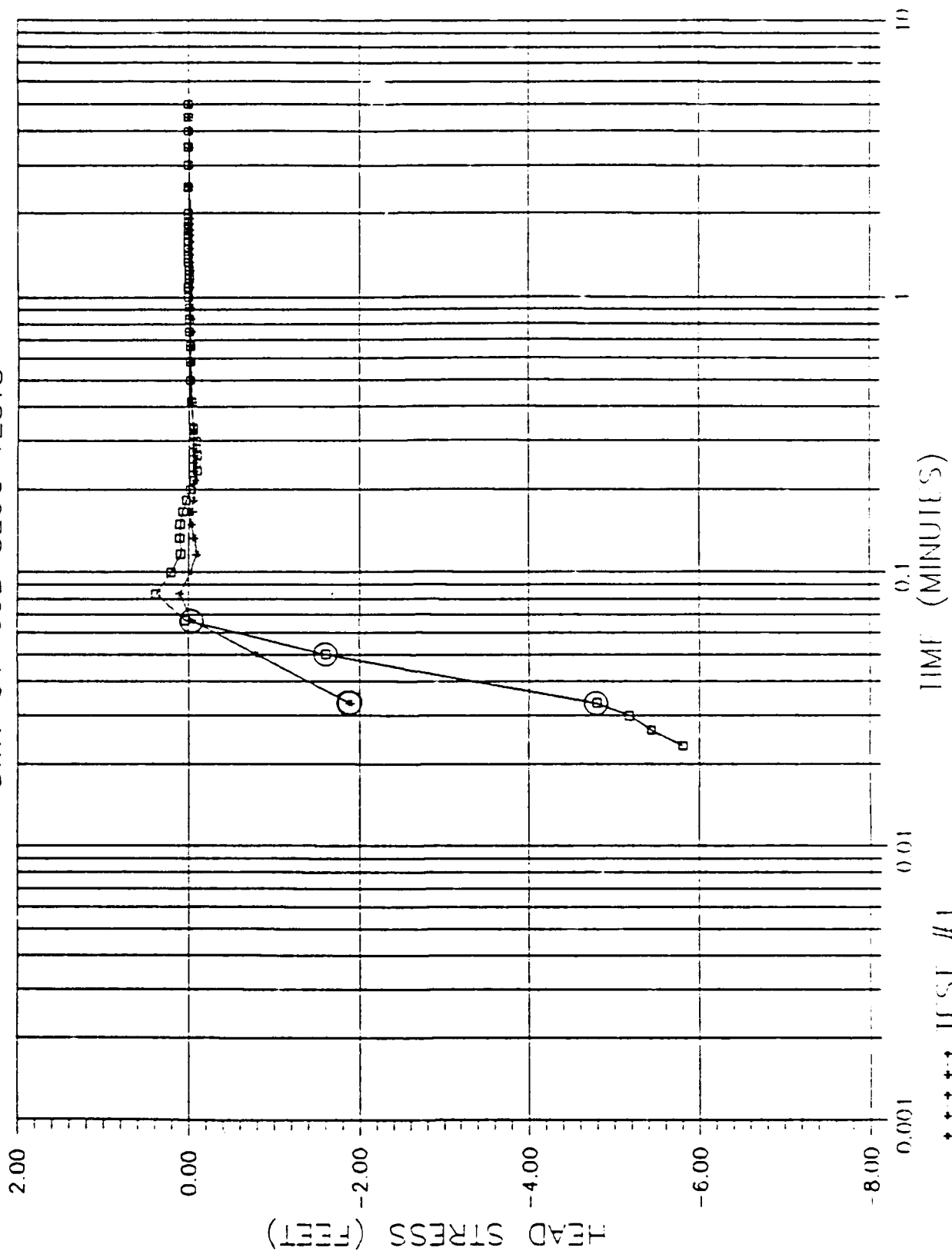
WELL FTH-89-01
 WELL DIAMETER=0.0100 FT, SCREEN LENGTH=10 FT, BOPING DIAMETER=0.75 FT

TEST 1		TEST 2	
TIME	HEAD	TIME	HEAD
MIN.	FEET	MIN.	FEET
0.000	-1.850	0.000	-1.870
0.010	-1.804	0.000	-1.860
0.020	-1.800	0.040	-1.810
0.030	-1.870	0.050	-1.800
0.040	-1.811	0.060	-1.800
0.050	-1.860	0.067	-1.780
0.050	-1.847	0.070	-1.800
0.060	-1.830	0.080	-1.807
0.070	-1.830	0.100	-1.800
0.080	-1.800	0.117	-1.800
0.100	-1.800	0.100	-1.800
0.117	-1.800	0.150	-1.800
0.130	-1.810	0.160	-1.817
0.150	-1.834	0.180	-1.816
0.160	-1.830	0.200	-1.800
0.180	-1.840	0.217	-1.800
0.200	-1.814	0.230	-1.840
0.217	-1.800	0.250	-1.814
0.230	-1.804	0.267	-1.800
0.250	-1.801	0.280	-1.804
0.267	-1.800	0.300	-1.840
0.280	-1.820	0.317	-1.820
0.300	-1.819	0.330	-1.819
0.317	-1.810	0.417	0.012
0.330	-1.807	0.500	0.031
0.417	0.000	0.580	0.037
0.500	0.012	0.917	0.021
0.580	0.018	1.167	0.020
1.000	0.025	1.330	0.037
1.080	0.018	1.417	0.020
1.500	0.025	1.667	0.018
1.667	0.018	1.830	0.020
4.500	0.012	1.917	0.05
		2.000	0.031
		2.500	0.018
		3.500	0.012

$\lambda=0.02E-2$ CM/SEC

$\lambda=0.02E-1$ CM/SEC

SWN-91-03B SLUG TESTS



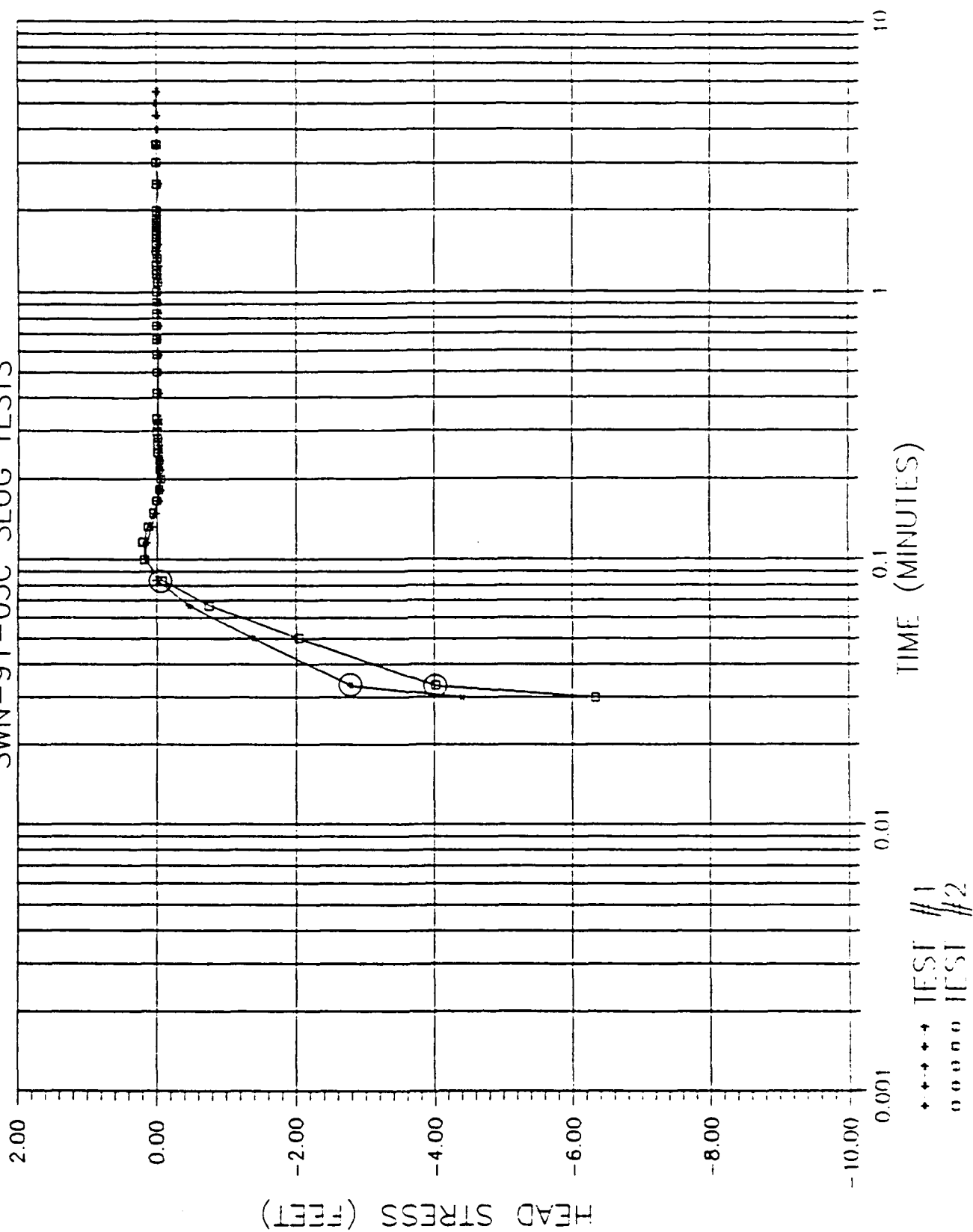
WELL SWN-91-038
WELL DIAMETER=0.3125FT, SCREEN LENGTH=15FT, BORING DIAMETER=0.75FT

TEST 1		TEST 2	
MINUTES	FEET	MINUTES	FEET
0.0033	-0.06	0.0033	-0.04
0.0066	-0.07	0.0066	-0.04
0.0099	-0.07	0.0099	-0.04
0.0133	-0.07	0.0133	-0.05
0.0166	-0.07	0.0166	-0.77
0.02	-1.51	0.02	-4.4
0.0233	-1.81	0.0233	-5.8
0.0266	-1.96	0.0266	-5.43
0.03	-1.85	0.03	-5.17
0.0333	-1.89	0.0333	-4.79
0.05	-0.8	0.05	-1.61
0.0666	-0.04	0.0666	0.04
0.0833	0.1	0.0833	0.36
0.1	-0.02	0.1	0.2
0.1166	-0.1	0.1166	0.09
0.1333	-0.07	0.1333	0.1
0.15	-0.03	0.15	0.1
0.1666	-0.04	0.1666	0.07
0.1833	-0.06	0.1833	0.03
0.2	-0.07	0.2	-0.02
0.2166	-0.08	0.2166	-0.06
0.2333	-0.07	0.2333	-0.1
0.25	-0.07	0.25	-0.09
0.2666	-0.07	0.2666	-0.1
0.2833	-0.06	0.2833	-0.09
0.3	-0.06	0.3	-0.09
0.3166	-0.06	0.3166	-0.06
0.3333	-0.06	0.3333	-0.06
0.4167	-0.04	0.4167	-0.03
0.5	-0.04	0.5	-0.02
0.5833	-0.03	0.5833	-0.02
0.6667	-0.03	0.6667	-0.02
0.75	-0.03	0.75	-0.01
0.8333	-0.03	0.8333	-0.01
0.9167	-0.02	0.9167	-0.01
1	-0.02	1	0
1.0833	-0.02	1.0833	0
1.1667	-0.02	1.1667	-0.01
1.25	-0.02	1.25	-0.01
1.3333	-0.02	1.3333	0
1.4166	-0.02	1.4166	0
1.5	-0.02	1.5	0
1.5833	-0.02	1.5833	0
1.6667	-0.02	1.6667	0
1.75	-0.02	1.75	0
1.8333	-0.02	1.8333	0
1.9167	-0.02	1.9167	0
2	-0.02	2	0
2.5	-0.01	2.5	0
3	-0.01	3	0
3.5	-0.01	3.5	0
4	-0.01	4	0
4.5	0	4.5	0
5	0	5	0

HYDROSLV:
K= 0.033 CM/SEC
BOUYER AND RICE:
K= 0.020 CM/SEC

K= 0.019 CM/SEC
K= 0.121 CM/SEC

SWN-91-03C SLUG TESTS



WELL SWN-91-03C

WELL DIAMETER=0.3125FT. SCREEN LENGTH=15FT. BORING DIAMETER=0.75FT

TEST 1		TEST 2	
MINUTES	FEET	MINUTES	FEET
0.0033	-0.26	0.0033	-0.24
0.0066	-0.36	0.0066	-0.25
0.0099	-2.90	0.0099	-2.02
0.0133	-5.57	0.0133	-6.06
0.0166	-5.27	0.0166	-6.02
0.02	-6.46	0.02	-7.06
0.0233	-4.9	0.0233	-7.27
0.0266	-4.92	0.0266	-6.57
0.03	-4.4	0.03	-6.33
0.0333	-2.79	0.0333	-4.01
0.05	-1.39	0.05	-2.04
0.0666	-0.47	0.0666	-0.79
0.0833	0	0.0833	-0.08
0.1	0.16	0.1	0.16
0.1166	0.15	0.1166	0.2
0.1333	0.08	0.1333	0.13
0.15	0.02	0.15	0.05
0.1666	-0.02	0.1666	0
0.1833	-0.05	0.1833	-0.03
0.2	-0.05	0.2	-0.05
0.2166	-0.05	0.2166	-0.03
0.2333	-0.04	0.2333	-0.03
0.25	-0.03	0.25	-0.01
0.2666	-0.03	0.2666	-0.01
0.2833	-0.02	0.2833	-0.01
0.3	-0.02	0.3	0
0.3166	-0.02	0.3166	-0.01
0.3333	-0.02	0.3333	0
0.4167	-0.02	0.4167	0
0.5	-0.02	0.5	0
0.5833	-0.02	0.5833	0
0.6667	-0.01	0.6667	0
0.75	-0.02	0.75	0
0.8333	-0.02	0.8333	0
0.9167	-0.01	0.9167	0
1	-0.02	1	0
1.0833	-0.02	1.0833	-0.01
1.1667	-0.01	1.1667	0
1.25	-0.02	1.25	0
1.3333	-0.01	1.3333	-0.01
1.4166	-0.01	1.4166	0.01
1.5	-0.02	1.5	0
1.5833	-0.01	1.5833	0
1.6667	-0.01	1.6667	0
1.75	-0.01	1.75	0
1.8333	0	1.8333	0
1.9167	-0.01	1.9167	0
2	-0.01	2	0
2.5	-0.02	2.5	0
3	0	3	0
3.5	0	3.5	0
4	0		
4.5	0		
5	0.02		
5.5	0		

HYDRAULEIC:

K = 0.014 CM/SEC

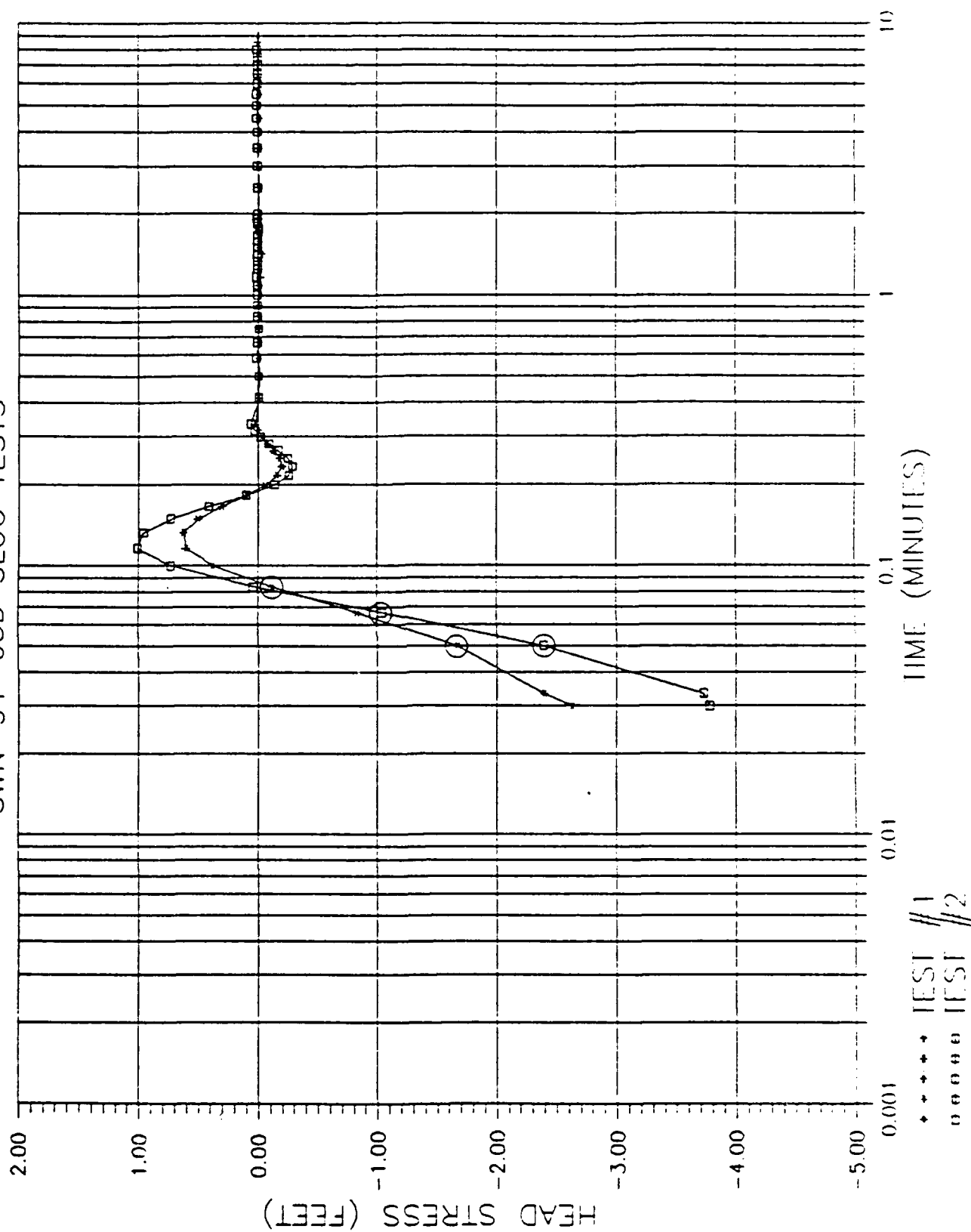
BOUWER AND RICE

K = 0.082 CM/SEC

K = 0.022 CM/SEC

K = 0.080 CM/SEC

SWN-91-03D SLUG TESTS



WELL SWN-91-030
WELL DIAMETER=0.3125FT. SCREEN LENGTH=15FT. BORING DIAMETER=0.75FT

TEST 1		TEST 2	
MINUTES	FEET	MINUTES	FEET
0.0033	-0.05	0.0033	-0.04
0.0066	-0.05	0.0066	-0.05
0.0099	-0.05	0.0099	-1.27
0.0133	-0.39	0.0133	-4.86
0.0166	-2.79	0.0166	-4.06
0.02	-2.69	0.02	-4.7
0.0233	-2.83	0.0233	-4.07
0.0266	-2.54	0.0266	-4.22
0.03	-2.63	0.03	-3.78
0.0333	-2.4	0.0333	-3.73
0.05	-1.87	0.05	-2.39
0.0666	-0.83	0.0666	-1.04
0.0833	-0.12	0.0833	0.04
0.1	0.38	0.1	0.73
0.1166	0.8	0.1166	1.01
0.1333	0.62	0.1333	0.96
0.15	0.5	0.15	0.73
0.1666	0.3	0.1666	0.41
0.1833	0.1	0.1833	0.1
0.2	-0.06	0.2	-0.14
0.2166	-0.16	0.2166	-0.26
0.2333	-0.2	0.2333	-0.29
0.25	-0.18	0.25	-0.25
0.2666	-0.13	0.2666	-0.17
0.2833	-0.08	0.2833	-0.09
0.3	-0.03	0.3	-0.02
0.3166	0	0.3166	0.03
0.3333	0.02	0.3333	0.06
0.4167	-0.01	0.4167	-0.01
0.5	-0.02	0.5	-0.01
0.5633	-0.01	0.5633	0.01
0.6667	-0.01	0.6667	0
0.75	-0.01	0.75	-0.01
0.8333	-0.01	0.8333	0
0.9167	-0.01	0.9167	0
1	-0.02	1	0
1.0833	-0.01	1.0833	0
1.1667	-0.02	1.1667	0.01
1.25	-0.01	1.25	0
1.3333	-0.01	1.3333	0
1.4166	-0.03	1.4166	0
1.5	-0.01	1.5	0
1.5833	-0.01	1.5833	0
1.6667	-0.01	1.6667	0
1.75	-0.01	1.75	-0.01
1.8333	-0.01	1.8333	0
1.9167	-0.01	1.9167	0.01
2	-0.01	2	0
2.5	-0.01	2.5	0
3	0	3	0
3.5	-0.01	3.5	0
4	-0.01	4	0
4.5	-0.01	4.5	0.01
5	0	5	0.01
5.5	-0.01	5.5	0.01
6	-0.01	6	0
6.5	0	6.5	0
7	0	7	0
7.5	0	7.5	0
8	0	8	0.01
8.5	0		
9	0		

HYDRAULEY

K = 0.020 CM/SEC

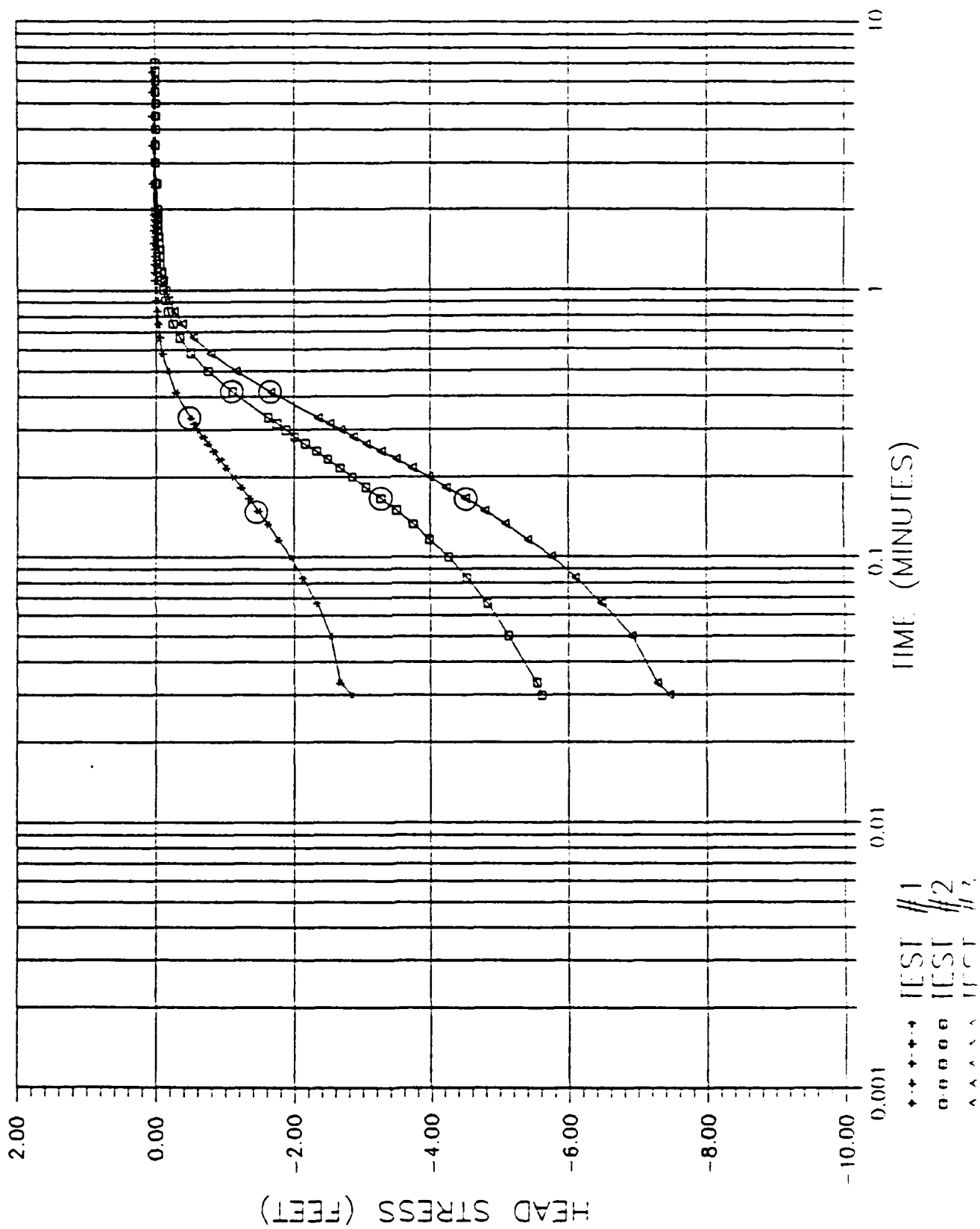
BOUWER AND RICE

K = 0.11 CM/SEC

K = 0.010 CM/SEC

K = 0.072 CM/SEC

SWN-91-03E SLUG TESTS



WELL SWN-91-03E
WELL DIAMETER=0.3125FT. SCREEN=3/8FT. BORING DIAMETER=0.468FT

TEST 1		TEST 2		TEST 3	
MINUTES	FEET	MINUTES	FEET	MINUTES	FEET
0.0033	-0.07	0.0033	-0.09	0.0033	-0.2
0.0066	-0.07	0.0066	-0.09	0.0066	-0.2
0.0099	-0.08	0.0099	-1.2	0.0099	-0.22
0.0133	-0.09	0.0133	-4.75	0.0133	-4.46
0.0166	-0.09	0.0166	-5.96	0.0166	-7.27
0.02	-0.76	0.02	-5.63	0.02	-7.77
0.0233	-2.72	0.0233	-5.82	0.0233	-7.56
0.0266	-2.73	0.0266	-6.64	0.0266	-7.54
0.03	-2.85	0.03	-6.61	0.03	-7.46
0.0333	-2.68	0.0333	-5.64	0.0333	-7.29
0.06	-2.54	0.06	-5.13	0.06	-6.91
0.0666	-2.34	0.0666	-4.82	0.0666	-6.47
0.0833	-2.14	0.0833	-4.53	0.0833	-6.1
0.1	-1.96	0.1	-4.26	0.1	-6.75
0.1166	-1.78	0.1166	-3.98	0.1166	-6.41
0.1333	-1.63	0.1333	-3.75	0.1333	-5.99
0.15	-1.49	0.15	-3.51	0.15	-4.79
0.1666	-1.36	0.1666	-3.28	0.1666	-4.51
0.1833	-1.24	0.1833	-3.06	0.1833	-4.23
0.2	-1.13	0.2	-2.86	0.2	-3.96
0.2166	-1.02	0.2166	-2.68	0.2166	-3.73
0.2333	-0.93	0.2333	-2.5	0.2333	-3.5
0.25	-0.84	0.25	-2.33	0.25	-3.28
0.2666	-0.78	0.2666	-2.17	0.2666	-3.07
0.2833	-0.69	0.2833	-2.02	0.2833	-2.88
0.3	-0.62	0.3	-1.89	0.3	-2.7
0.3166	-0.56	0.3166	-1.78	0.3166	-2.53
0.3333	-0.51	0.3333	-1.63	0.3333	-2.36
0.4167	-0.29	0.4167	-1.11	0.4167	-1.67
0.5	-0.18	0.5	-0.78	0.5	-1.16
0.5833	-0.1	0.5833	-0.51	0.5833	-0.8
0.6667	-0.06	0.6667	-0.35	0.6667	-0.56
0.75	-0.04	0.75	-0.25	0.75	-0.38
0.8333	-0.02	0.8333	-0.18	0.8333	-0.27
0.9167	-0.01	0.9167	-0.14	0.9167	-0.19
1	0	1	-0.11	1	-0.15
1.0833	0	1.0833	-0.09	1.0833	-0.12
1.1667	0.01	1.1667	-0.08	1.1667	-0.09
1.25	0.01	1.25	-0.07	1.25	-0.07
1.3333	0.01	1.3333	-0.06	1.3333	-0.07
1.4166	0.01	1.4166	-0.06	1.4166	-0.05
1.5	0.02	1.5	-0.05	1.5	-0.05
1.5833	0.01	1.5833	-0.05	1.5833	-0.04
1.6667	0.02	1.6667	-0.04	1.6667	-0.03
1.75	0.02	1.75	-0.04	1.75	-0.03
1.8333	0.02	1.8333	-0.04	1.8333	-0.02
1.9167	0.03	1.9167	-0.04	1.9167	-0.02
2	0.03	2	-0.04	2	-0.02
2.5	0.03	2.5	-0.02	2.5	0
3	0.03	3	0.01	3	0
3.5	0.04	3.5	0	3.5	0.01
4	0.04	4	0	4	0
4.5	0.04	4.5	-0.01	4.5	0.02
5	0.04	5	-0.01	5	0.01
5.5	0.04	5.5	0	5.5	0.02
6	0.04	6	0	6	0.01
6.5	0.04	6.5	0		
		7	0		

HYDROSLV
K= 0.001 CM/SEC
BOUWER AND RICE
K= 0.015 CM/SEC

K= 0.001 CM/SEC
K= 0.012 CM/SEC

K= 0.001 CM/SEC
K= 0.011 CM/SEC

PROJECT <u>BAAP/USA THAMA</u>	COMP BY <u>RTTR</u>	JOB NO
	CHK BY <u>CS</u>	DATE

PERMEABILITY TESTING ANALYSES
HYDROSEU EQUATION

$$\frac{51123}{\text{TEST \#1}} \quad -K = \left[\frac{\log(H-h(t_1)) - \log(H-h(t_2))}{t_1 - t_2} \right] \frac{r^2 \log(L/r)}{2L}$$

$$\begin{aligned} H-h(t_1) &= 3.845 \text{ ft} \quad (t_1) = 1.25 \text{ min} & r &= 0.156 \text{ ft} \\ H-h(t_2) &= 0.453 \text{ ft} \quad (t_2) = 4.5 \text{ min} & L &= 25 \text{ ft} \\ & & R &= 0.375 \text{ ft} \end{aligned}$$

$$-K = \left[\frac{\log(3.845) - \log(0.453)}{1.25 - 4.5} \right] \frac{(0.156)^2 \log(25/0.375)}{2(25)}$$

$$-K = [-0.286] [0.0009] = -0.0003 \text{ ft/min}$$

$$K = 0.0001 \text{ cm/s}$$

TEST #2

$$\begin{aligned} H-h(t_1) &= 0.818 \text{ ft} \quad (t_1) = 1.0 \text{ min} \\ H-h(t_2) &= 0.257 \text{ ft} \quad (t_2) = 3.5 \text{ min} \end{aligned}$$

$$-K = \left[\frac{\log(0.818) - \log(0.257)}{1.0 - 3.5} \right] \frac{(0.156)^2 \log(25/0.375)}{2(25)}$$

$$-K = [-0.201] [0.0009] = -0.0002 \text{ ft/min}$$

$$K = 0.0001 \text{ cm/s}$$

~~BGM-92~~ (RR)

BGM-91-01

$$\begin{aligned} H-h(t_1) &= 0.63 \text{ FE} & t_1 &= 0.1166 \text{ min} & r &= 0.156 \text{ ft} \\ H-h(t_2) &= 0.3 \text{ FE} & t_2 &= 0.2666 \text{ min} & L &= 15 \text{ ft} \\ & & & & R &= 0.375 \text{ ft} \end{aligned}$$

$$-K = \left[\frac{\log(0.63) - \log(0.3)}{0.1166 - 0.2666} \right] \frac{(0.156)^2 \log(25/0.375)}{2(15)}$$

$$-K = [-2.148] [0.0013] = -0.0028 \text{ FE/min}$$

$$K = 0.0014 \text{ cm/s}$$

PROJECT <u>BAAP / USATHAMA</u>	COMP BY <u>RRR</u>	JOB NO
	CHK BY <u>SS</u>	DATE

PBN-91-06C

$$\begin{aligned}
 H-h(t_1) &= 5.72 \text{ ft} & t_1 &= 0.0333 \text{ min} & r &= 0.156 \text{ ft} \\
 H-h(t_2) &= 0.15 \text{ ft} & t_2 &= 0.1 \text{ min} & R &= 0.375 \text{ ft} \\
 & & & & L &= 15 \text{ ft}
 \end{aligned}$$

$$-K = \left[\frac{\log(5.72) - \log(0.15)}{0.0333 - 0.1} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-23.708] [0.0013] = -0.031 \text{ ft/min}$$

$$\underline{K = 0.016 \text{ cm/sec}}$$

PROJECT	USATHAMA	COMP BY	JOB NO
BAAIP	PERMEABILITY TESTING	RRR	
		CHK BY	DATE
		GS	

PBN-91-12C
TEST # 1

$$H - h(t_1) = 1.68 \text{ Ft}$$

$$t_1 = 0.0333$$

$$r^2 = (0.15625)^2$$

$$H - h(t_2) = 0.46 \text{ Ft}$$

$$t_2 = 0.0833$$

$$L = 15 \text{ Ft}$$

$$R = 0.375$$

$$-K = \left[\frac{\log(1.68) - \log(0.46)}{0.0333 - 0.0833} \right] \frac{(0.15625)^2 \log(15/0.375)}{2(15)}$$

$$-K = \left[\frac{0.562}{-0.05} \right] [0.0013] = -0.0147 \text{ Ft/min}$$

$$K = 0.007 \text{ cm/s}$$

PBN-91-12C
TEST # 2

$$-K = \left[\frac{\log(2.93) - \log(0.67)}{0.05 - 0.1} \right] \frac{(0.15625)^2 \log(15/0.375)}{2(15)}$$

$$-K = -[12.816][0.0013] = -0.0167 \text{ Ft/min}$$

$$K = 0.008 \text{ cm/s}$$

PROJECT BAAP / USATHAMA PERMEABILITY TESTING ANALYSES HYDROSLIP EQUATION	COMP BY RIR	JOB NO
	CHK BY CS	DATE

PBN-91-12D

TEST #1

$$\begin{aligned}
 H-h(t_1) &= 1.97 \text{ ft} \quad (t_1) = 0.05 \text{ min} & r &= 0.156 \text{ ft} \\
 H-h(t_2) &= 0.29 \text{ ft} \quad (t_2) = 0.0833 \text{ min} & L &= 15 \text{ ft} \\
 & & R &= 0.375 \text{ ft}
 \end{aligned}$$

$$-K = \left[\frac{\log(1.97) - \log(0.29)}{0.05 - 0.0833} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-24.987][0.0013] = -0.032 \text{ Ft/min}$$

$$K = 0.017 \text{ cm/s}$$

TEST #2

$$\begin{aligned}
 H-h(t_1) &= 2.77 \text{ ft} \quad t_1 = 0.0666 \text{ min} \\
 H-h(t_2) &= 0.01 \text{ ft} \quad t_2 = 0.1 \text{ min}
 \end{aligned}$$

$$-K = \left[\frac{\log(2.77) - \log(0.01)}{0.0666 - 0.1} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-73.128][0.0013] = -0.095 \text{ Ft/min}$$

$$K = 0.048 \text{ cm/s}$$

TEST #3

$$\begin{aligned}
 H-h(t_1) &= 7.04 \text{ Ft} \quad t_1 = 0.05 \text{ min} \\
 H-h(t_2) &= 0.07 \text{ Ft} \quad t_2 = 0.10 \text{ min}
 \end{aligned}$$

$$-K = \left[\frac{\log(7.04) - \log(0.07)}{0.05 - 0.10} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [25.098][0.0013] = 0.0326 \text{ Ft/min}$$

$$K = 0.016 \text{ cm/s}$$

(RD)

$$-K = [-40.049][0.0013] = -0.052 \text{ Ft/min}$$

$$K = 0.026 \text{ cm/s}$$

PROJECT BAAP/USATHAMA
 PERMEABILITY TESTING ANALYSES
 Hvorslev Equation

COMP BY

RRR

JOB NO

CHK BY

CS

DATE

ELM-91-10

TEST #1

$$H-h(t_1) = 0.2 \text{ ft}$$

$$t_1 = 0.15 \text{ min}$$

$$r = 0.156 \text{ ft}$$

$$H-h(t_2) = 0.1 \text{ ft}$$

$$t_2 = 0.25 \text{ min}$$

$$L = 20 \text{ ft}$$

$$R = 0.375 \text{ ft}$$

$$-K = \left[\frac{\log(0.2) - \log(0.1)}{0.15 - 0.25} \right] \frac{(0.156)^2 \log(20/0.375)}{2(20)}$$

$$-K = \{-3.010\} \{0.0011\} = -0.003 \text{ ft/min}$$

$$K = 0.002 \text{ cm/s}$$

TEST #2

$$H-h(t_1) = 0.2 \text{ ft}$$

$$t_1 = 0.2 \text{ min}$$

$$H-h(t_2) = 0.11 \text{ ft}$$

$$t_2 = 0.2833 \text{ min}$$

$$-K = \left[\frac{\log(0.2) - \log(0.11)}{0.2 - 0.2833} \right] \left[\frac{(0.156)^2 \log(20/0.375)}{2(20)} \right]$$

$$-K = \{-3.117\} \{0.0011\} = -0.003 \text{ ft/min}$$

$$K = 0.002 \text{ cm/s}$$

TEST #3

$$H-h(t_1) = 0.19 \text{ ft}$$

$$t_1 = 0.2 \text{ min}$$

$$H-h(t_2) = 0.13 \text{ ft}$$

$$t_2 = 0.2666 \text{ min}$$

$$-K = \left[\frac{\log(0.19) - \log(0.13)}{0.2 - 0.2666} \right] \frac{(0.156)^2 \log(20/0.375)}{2(20)}$$

$$-K = \{-2.475\} \{0.0011\} = -0.003 \text{ ft/min}$$

$$K = 0.002 \text{ cm/s}$$

PROJECT BAAP / USATHAMA
 PERMEABILITY TESTING ANALYSES
 HUORSLEV EQUATION

COMP BY

RKR

JOB NO

CHK BY

CS

DATE

ELN - 91 - 07A

TEST # 1

$$H-h(t_1) = 0.56 \text{ FE}$$

$$t_1 = 0.0666 \text{ MIN}$$

$$r = 0.156 \text{ ft}$$

$$H-h(t_2) = 0.19 \text{ FE}$$

$$t_2 = 0.1333 \text{ MIN}$$

$$L = 15 \text{ ft}$$

$$R = 0.375 \text{ ft}$$

$$-K = \left[\frac{\log(0.56) - \log(0.19)}{0.0666 - 0.1333} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-7.038] [0.0013] = -0.009 \text{ FE/MIN}$$

$$K = 0.005 \text{ cm/s}$$

TEST # 2

$$H-h(t_1) = 0.6 \text{ FE}$$

$$t_1 = 0.0666 \text{ MIN}$$

$$H-h(t_2) = 0.19 \text{ FE}$$

$$t_2 = 0.1333 \text{ MIN}$$

$$-K = \left[\frac{\log(0.6) - \log(0.19)}{0.0666 - 0.1333} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-7.487] [0.0013] = -0.010 \text{ FE/MIN}$$

$$K = 0.005 \text{ cm/s}$$

TEST # 3

$$H-h(t_1) = 0.58 \text{ FE}$$

$$t_1 = 0.0666 \text{ MIN}$$

$$H-h(t_2) = 0.18 \text{ FE}$$

$$t_2 = 0.1333 \text{ MIN}$$

$$-K = \left[\frac{\log(0.58) - \log(0.18)}{0.0666 - 0.1333} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-7.618] [0.0013] = \cancel{-0.009 \text{ FE/MIN}}^{\text{RKR}} - 0.01 \text{ FE/MIN}$$

$$K = 0.005 \text{ cm/s}$$

PROJECT BAAP/USATHAMA
 PERMEABILITY TESTING ANALYSES
 HODRSLEV ANALYSIS

COMP BY

RRR

JOB NO

CHK BY

JS

DATE

ELN-91-0713

TEST #1

$$H-h(t_1) = 5.2 \text{ ft} \quad t_1 = 0.03 \text{ MIN} \quad r = 0.156 \text{ ft}$$

$$H-h(t_2) = 1.79 \text{ ft} \quad t_2 = 0.05 \text{ MIN} \quad R = 0.375 \text{ ft}$$

$$L = 15 \text{ ft}$$

$$-K = \left[\frac{\log(5.2) - \log(1.79)}{0.03 - 0.05} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-23.158] [0.0013] = -0.030 \text{ Ft/min}$$

$$K = 0.015 \text{ cm/s}$$

TEST #2

$$H-h(t_1) = 5.88 \text{ ft}$$

$$t_1 = 0.0266 \text{ MIN}$$

$$H-h(t_2) = 1.74 \text{ ft}$$

$$t_2 = 0.05 \text{ MIN}$$

$$-K = \left[\frac{\log(5.88) - \log(1.74)}{0.0266 - 0.05} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-22.599] [0.0013] = -0.029 \text{ Ft/min}$$

$$K = 0.015 \text{ cm/s}$$

TEST #3

$$H-h(t_1) = 5.93 \text{ ft}$$

$$t_1 = 0.0266 \text{ MIN}$$

$$H-h(t_2) = 1.82 \text{ ft}$$

$$t_2 = \text{~~0.05~~ } 0.05 \text{ MIN}$$

$$-K = \left[\frac{\log(5.93) - \log(1.82)}{0.0266 - 0.05} \right] \frac{(0.156)^2 \log(15/0.375)}{2(15)}$$

$$-K = [-21.922] [0.0013] = -0.028 \text{ Ft/min}$$

$$K = 0.014 \text{ cm/s}$$

PROJECT BAAP / USATHAMA

COMP BY

RRR

JOB NO

PERMEABILITY TESTING ANALYSES
HYDROSEU EQUATION

CHK BY

S

DATE

SWN-91-03C

TEST # 1

$$H-h(t_1) = -2.79 \text{ ft} \quad t_1 = 0.0333 \text{ min} \quad r^2 = (0.156)^2 \text{ ft}$$

$$H-h(t_2) = 0.47 \text{ ft} \quad t_2 = 0.0666 \text{ min} \quad L = 15 \text{ ft}$$

$$R = 0.375 \text{ ft}$$

$$-K = \left[\frac{\log(2.79) - \log(0.47)}{0.0333 - 0.0666} \right] \left[\frac{(0.156)^2 \log(15/0.375)}{2(15)} \right]$$

$$-K = \left[\frac{-23.228}{-0.0333} \right] [0.0013] = -0.031 \text{ FE/min (RN)}$$

$$\text{(21)} \quad K = \frac{0.015}{0.015} \text{ FE/min (RN)}$$

TEST # 2

$$H-h(t_1) = 4.01 \text{ ft} \quad t_1 = 0.0333 \text{ min}$$

$$H-h(t_2) = 0.08 \text{ ft} \quad t_2 = 0.0833 \text{ min}$$

$$-K = \left[\frac{\log(4.01) - \log(0.08)}{0.0333 - 0.0833} \right] \left[\frac{(0.156)^2 \log(15/0.375)}{2(15)} \right]$$

$$-K = [-34.001] [0.0013] = -0.044 \text{ FE/min}$$

$$K = 0.022 \text{ cm/s}$$

SWN-91-03B

TEST # 1

$$H-h(t_1) = 1.89 \text{ ft} \quad (t_1) = 7.89 \text{ min (RR)}$$

$$H-h(t_2) = 0.04 \text{ ft} \quad (t_2) = 0.0666 \text{ min}$$

$$-K = \left[\frac{\log(1.89) - \log(0.04)}{0.0333 - 0.0666} \right] \left[\frac{(0.156)^2 \log(15/0.375)}{2(15)} \right]$$

$$-K = [-50.282] [0.0013] = -0.065 \text{ FE/min}$$

$$K = 0.033 \text{ cm/s}$$

TEST # 2

$$H-h(t_1) = 4.79 \text{ ft} \quad (t_1) = 0.0333 \text{ min}$$

$$H-h(t_2) = 1.61 \text{ ft} \quad (t_2) = 0.05 \text{ min (D)}$$

$$-K = \left[\frac{\log(4.79) - \log(1.61)}{0.0333 - 0.05} \right] \left[\frac{(0.156)^2 \log(15/0.375)}{2(15)} \right]$$

$$-K = [-28.354] [0.0013] = -0.037 \text{ FE/min}$$

$$K = 0.019 \text{ cm/s}$$

PROJECT <u>BADGER AAP</u> PERMEABILITY TESTING ANALYSES USING HORSLEY EQUATION	COMP BY <u>RPR</u>	JOB NO
	CHK BY <u>LD</u>	DATE <u>8.28.92</u>

$$-K = \left[\frac{\log (H - h(t_1)) - \log (H - h(t_2))}{t_1 - t_2} \right] \frac{r^2 \log (L/R)}{2L}$$

SWN-91-03D

TEST #1

$$H - h(t_1) = 1.67 \text{ Ft } t_1 = 0.05 \text{ min} \quad r^2 = (0.15625)^2$$

$$H - h(t_2) = 0.12 \text{ Ft } t_2 = 0.0833 \quad L = 15 \text{ ft}$$

$$R = 0.375$$

$$-K = \left[\frac{\log (1.67) - \log (0.12)}{0.05 - 0.0833} \right] \frac{(0.15625)^2 \log (15/0.375)}{2(15)}$$

$$-K = [-34.34] \left(\frac{0.039 \text{ (RP)}}{30} \right) = -0.04 \text{ ft/min}$$

$$K = 0.02 \text{ cm/s}$$

TEST #2 (RP)

$$H - h(t_1) = \cancel{3.12} 2.39 \quad t_1 = 0.05$$

$$H - h(t_2) = 1.04 \quad t_2 = 0.0666$$

$$-K = \left[\frac{\log (2.39) - \log (1.04)}{(0.05 - 0.0666)} \right] \frac{(0.15625)^2 \log (15/0.375)}{2(15)}$$

$$K = 0.028 \text{ ft/min}$$

$$K = 0.01 \text{ cm/s}$$

PROJECT BAAP / USATHAMA

COMP BY

RRR

JOB NO

CHK BY

2

DATE

PERM TESTSSWN-91-03ETEST # 1

$$H-h(t_1) = 1.49 \text{ ft} \quad t_1 = 0.150 \text{ min}$$

$$H-h(t_2) = 0.51 \text{ ft} \quad t_2 = 0.333 \text{ min}$$

$$r = \cancel{0.229} \quad 0.156$$

$$R = 0.229 \text{ ft}$$

$$L = 38 \text{ ft}$$

$$-K = \left[\frac{\log(1.49) - \log(0.51)}{(0.15 - 0.333)} \right] \frac{(0.156)^2 \log(38/0.229)}{2(38)}$$

$$-K = [-2.544] [0.0007] = -0.002 \text{ ft/min}$$

$$= \underline{0.0009 \text{ cm/s}}$$

TEST # 2

$$H-h(t_1) = 3.28 \text{ ft} \quad t_1 = 0.166 \text{ min}$$

$$H-h(t_2) = 1.11 \text{ ft} \quad t_2 = 0.416 \text{ min}$$

$$-K = \left[\frac{\log(3.28) - \log(\cancel{3.28} \quad 1.11)}{(0.166 - 0.416)} \right] \frac{(0.156)^2 \log(38/0.229)}{2(38)}$$

$$-K = [-1.882] [0.0007] = -0.001 \text{ ft/min}$$

$$= \underline{0.0007 \text{ cm/s}}$$

TEST # 3

$$H-h(t_1) = 4.51 \text{ ft} \quad (t_1) = 0.167 \text{ min}$$

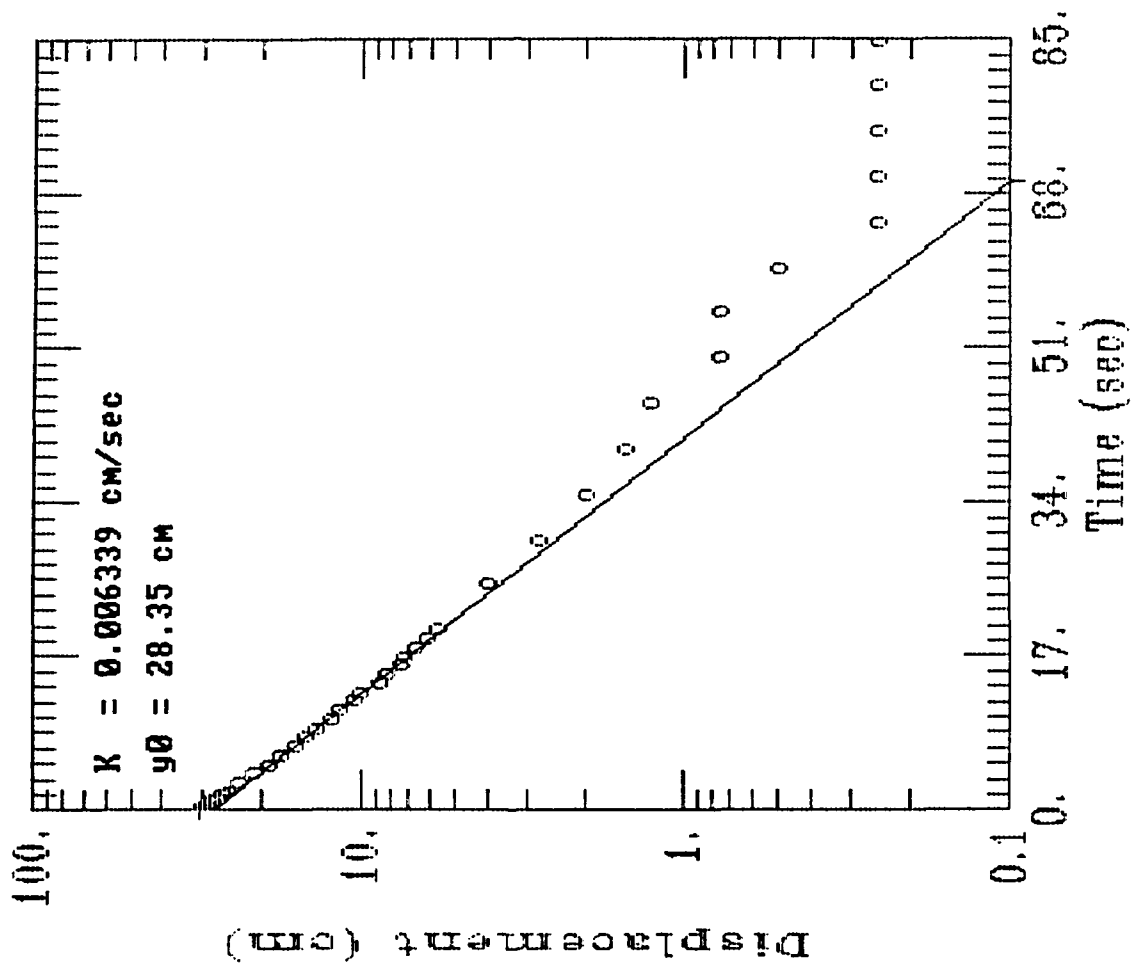
$$H-h(t_2) = 1.67 \text{ ft} \quad (t_2) = 0.417 \text{ min}$$

$$-K = \left[\frac{\log(4.51) - \log(1.67)}{(0.167 - 0.417)} \right] \frac{(0.156)^2 \log(38/0.229)}{2(38)}$$

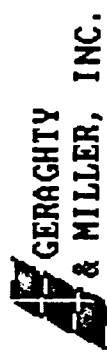
$$-K = [-1.726] [0.0007] = -0.001 \text{ ft/min}$$

$$= \underline{0.0007 \text{ cm/s}}$$

BGM-01-01



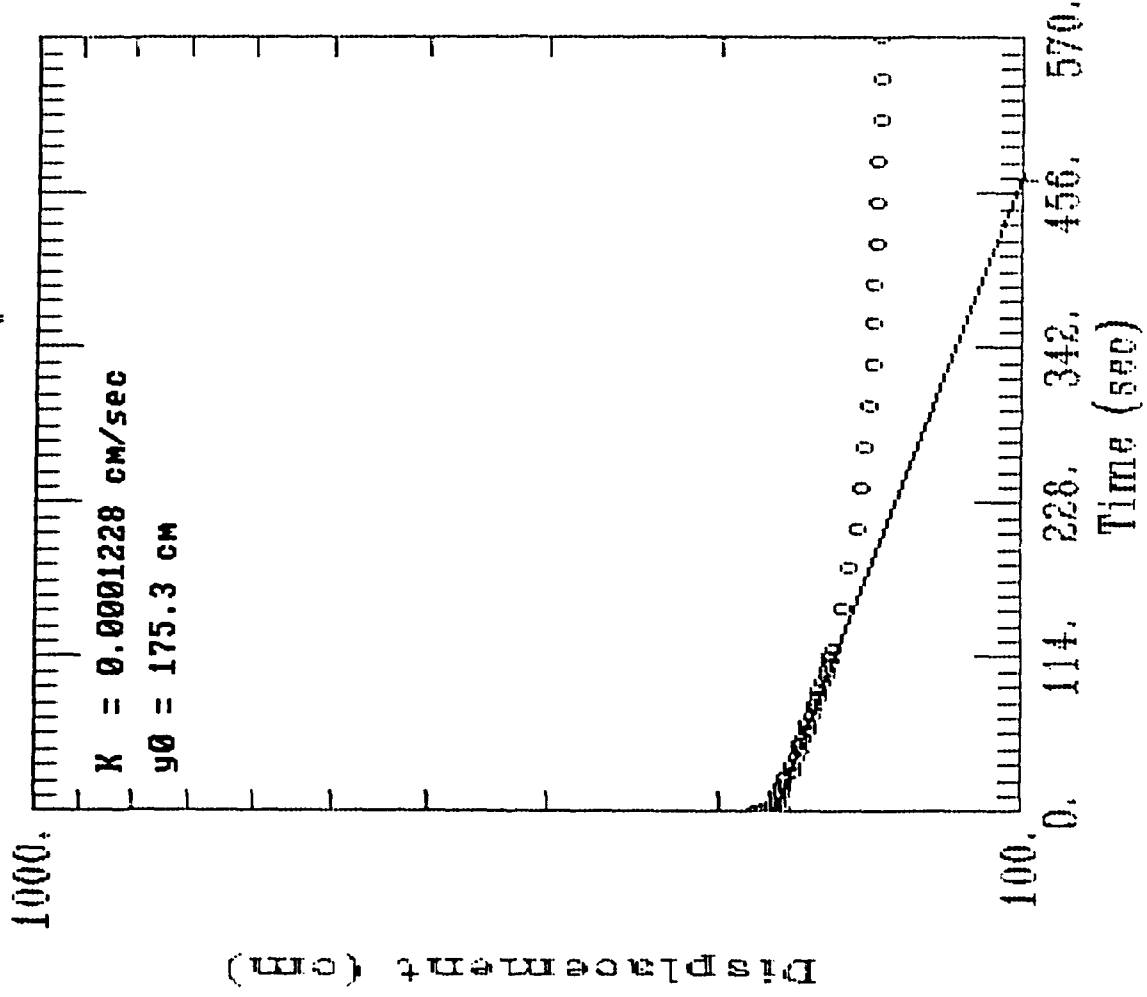
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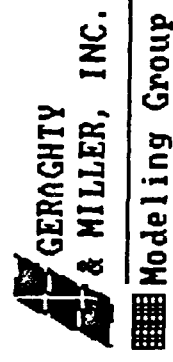
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& MILLER, INC.

Modeling Group

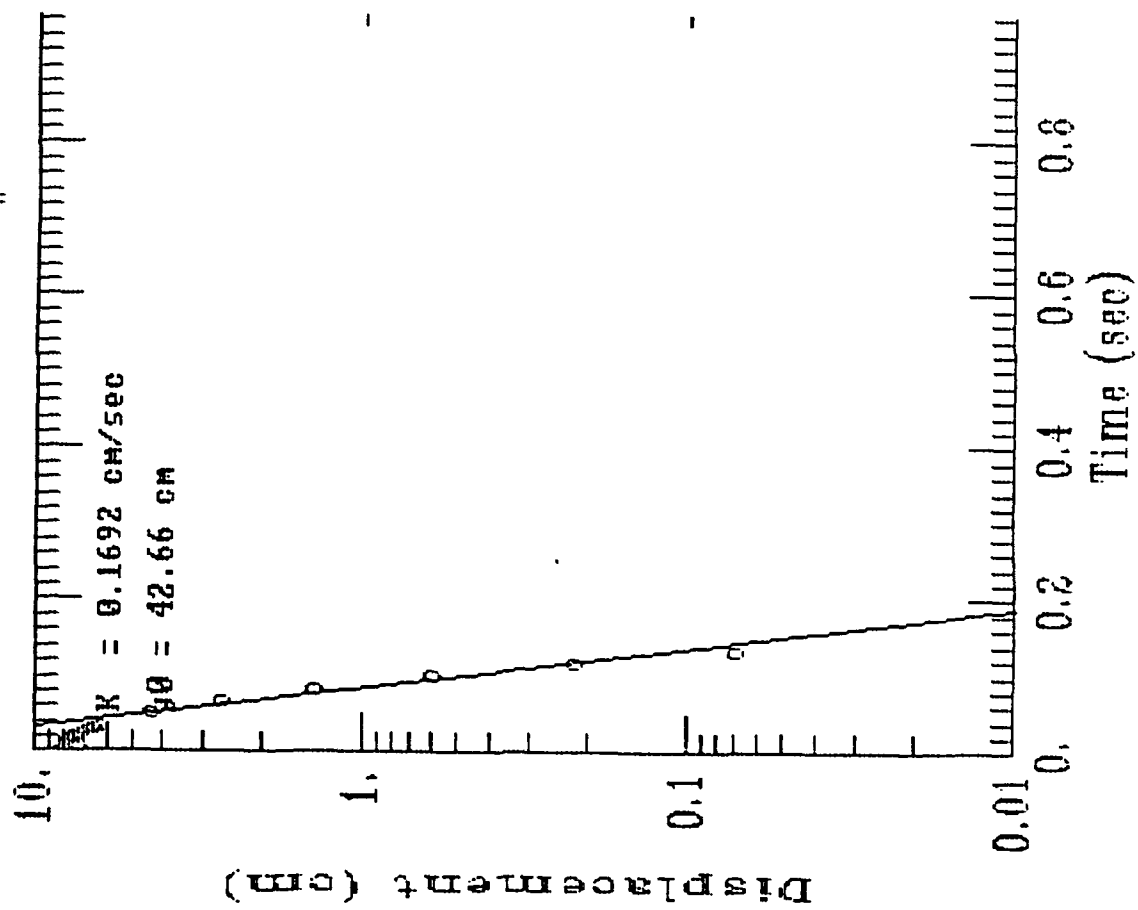
S1123 TEST #2



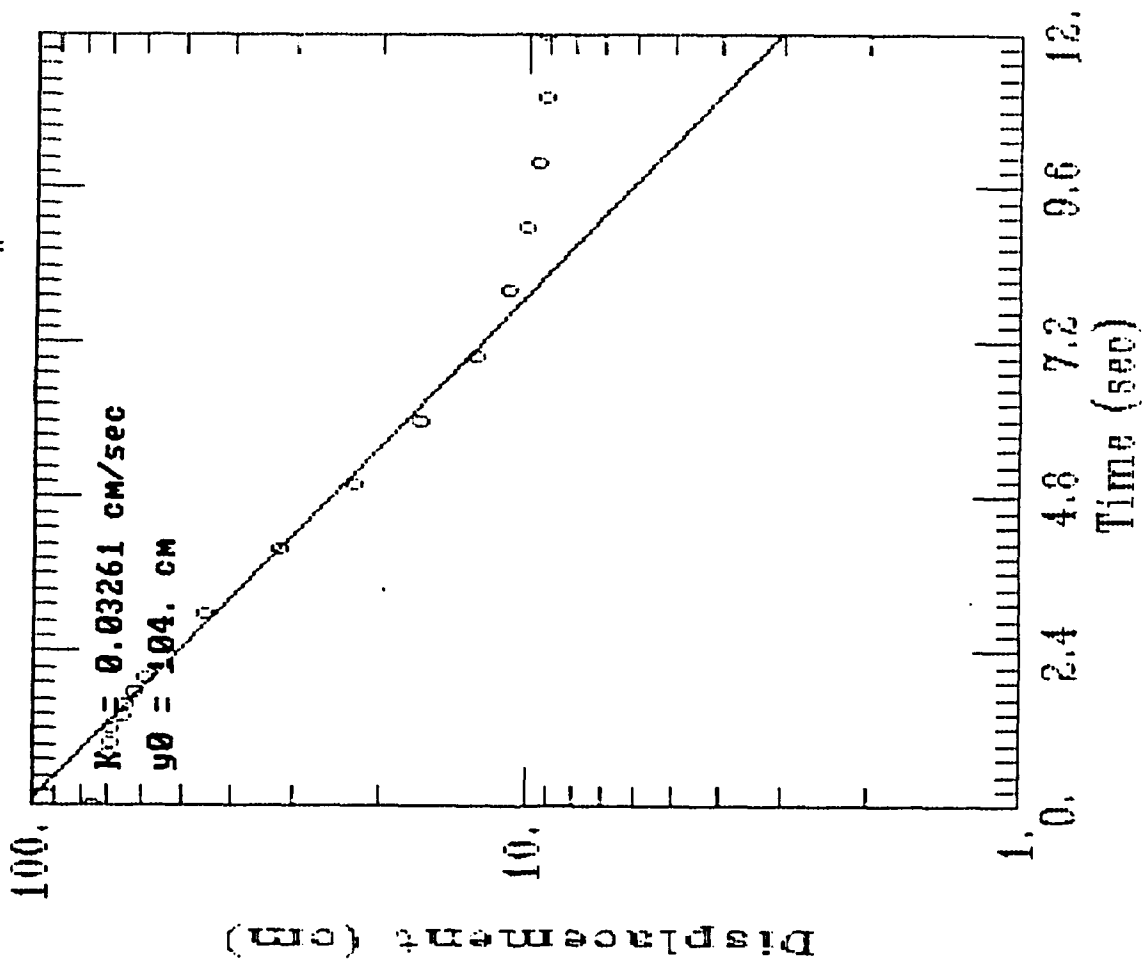
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PHN-91-06C TEST #1



PBN-01-12C TEST #1

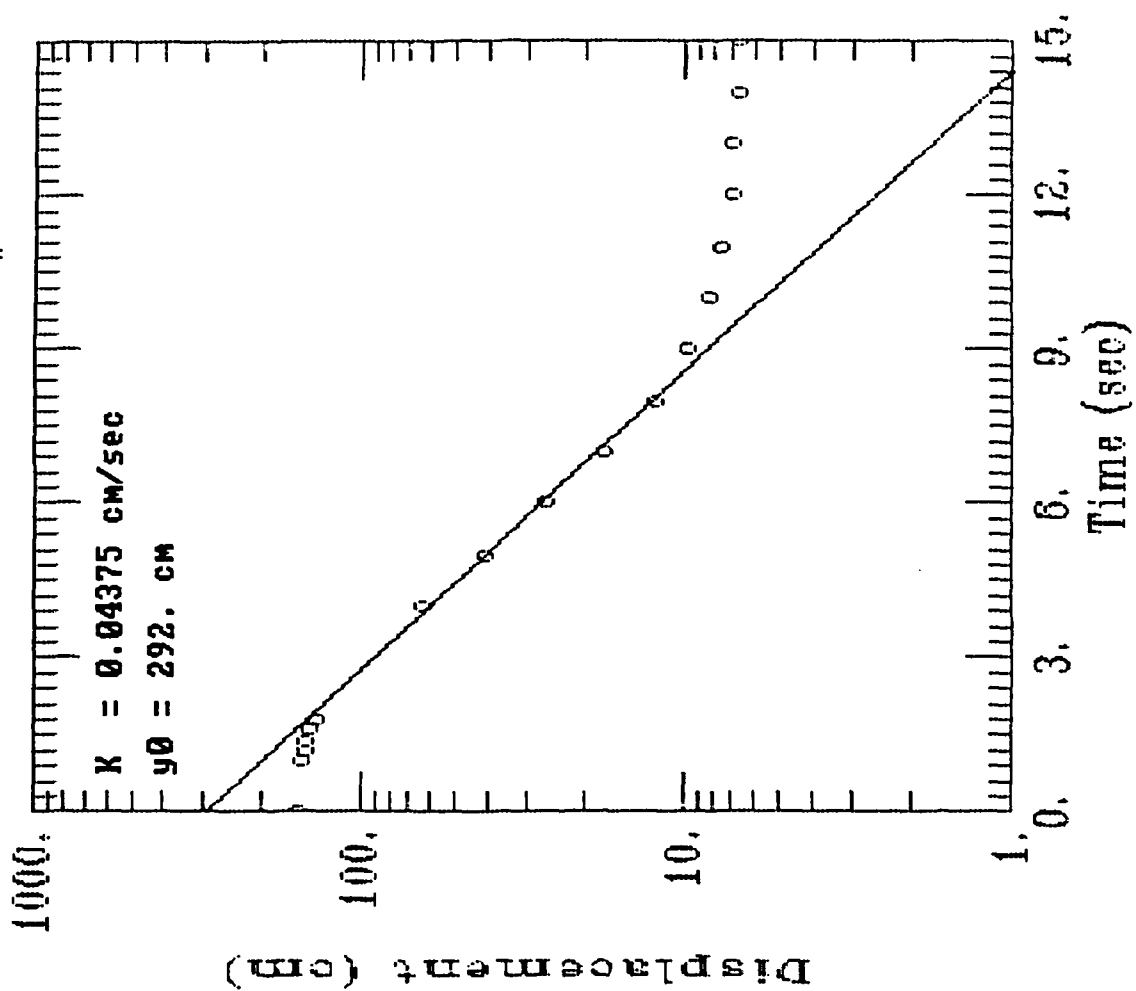


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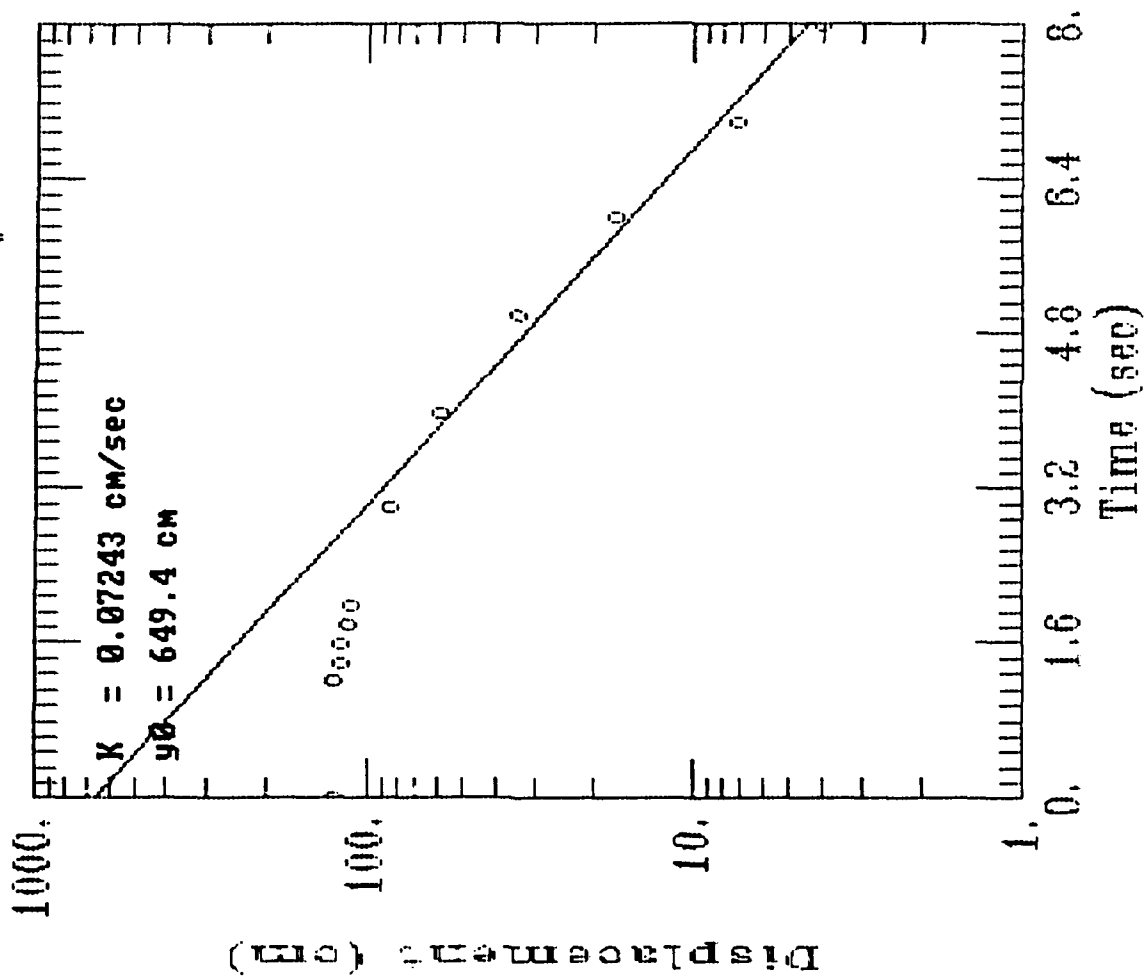
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PBN-01-12C TEST #2



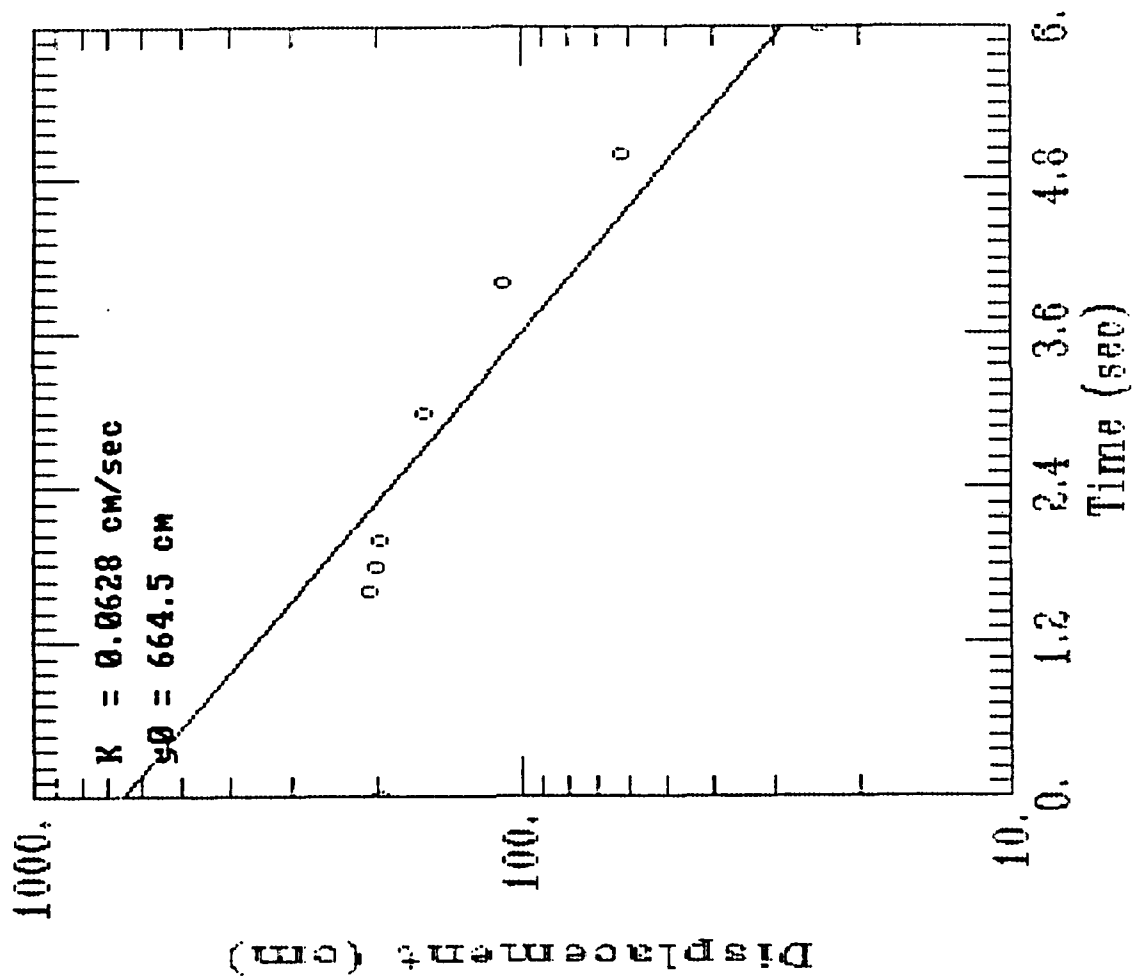
PBN-01-12D TEST #1



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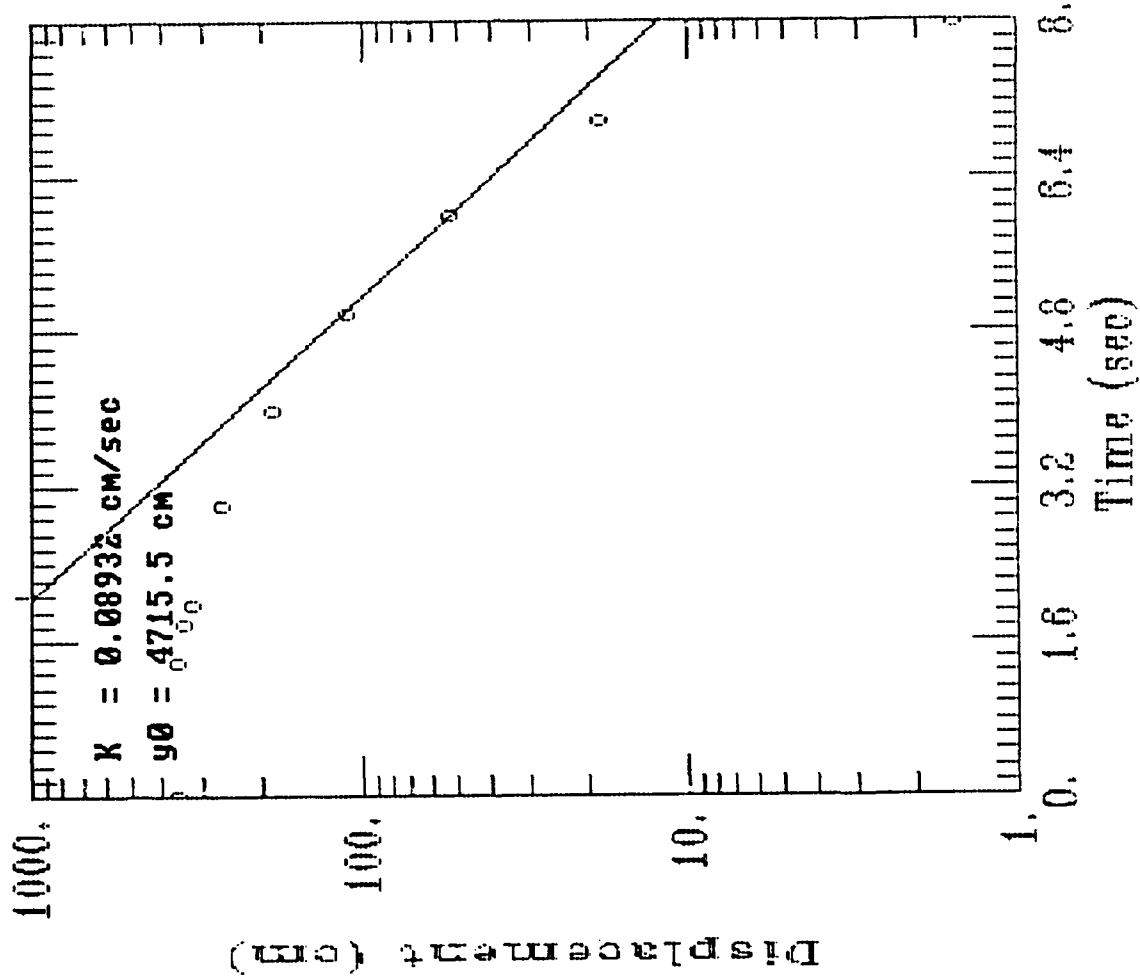
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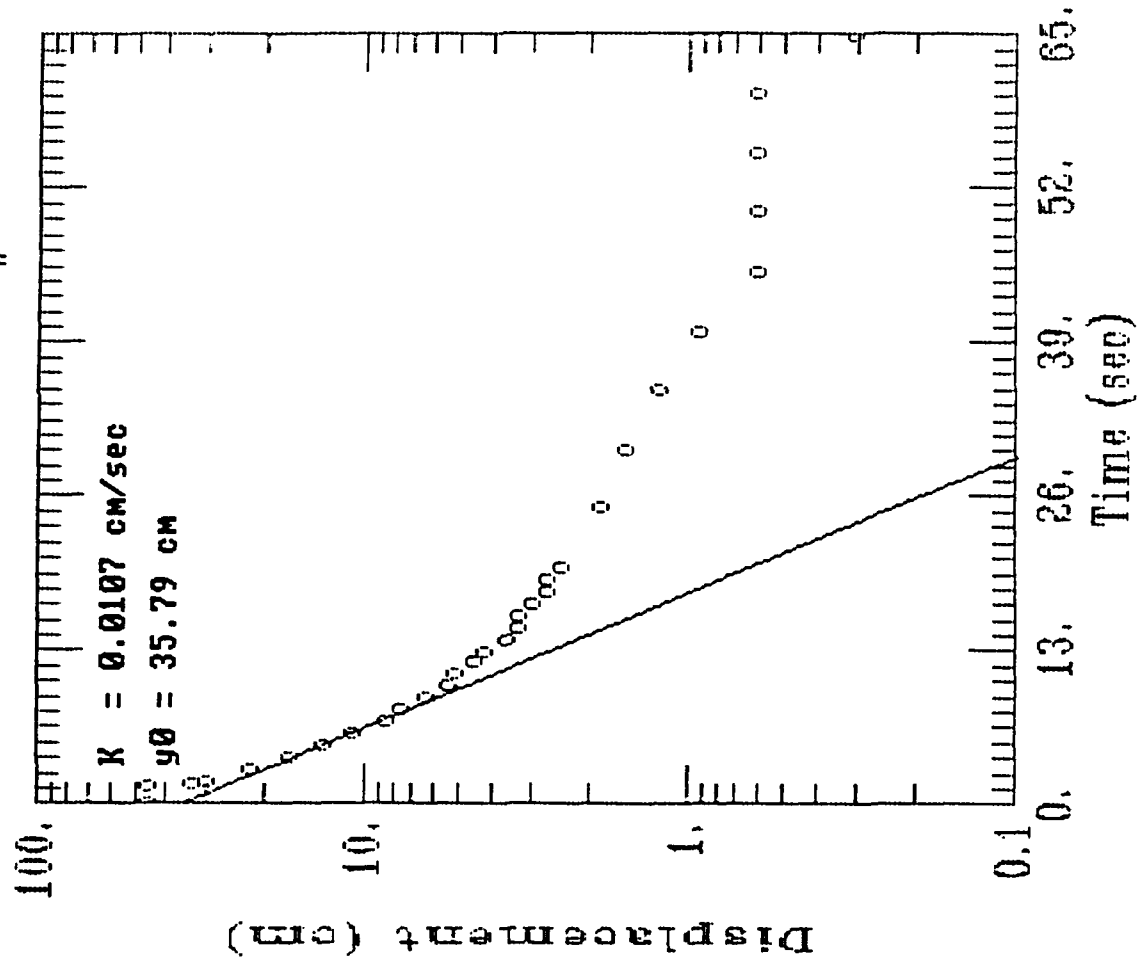
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Modeling Group

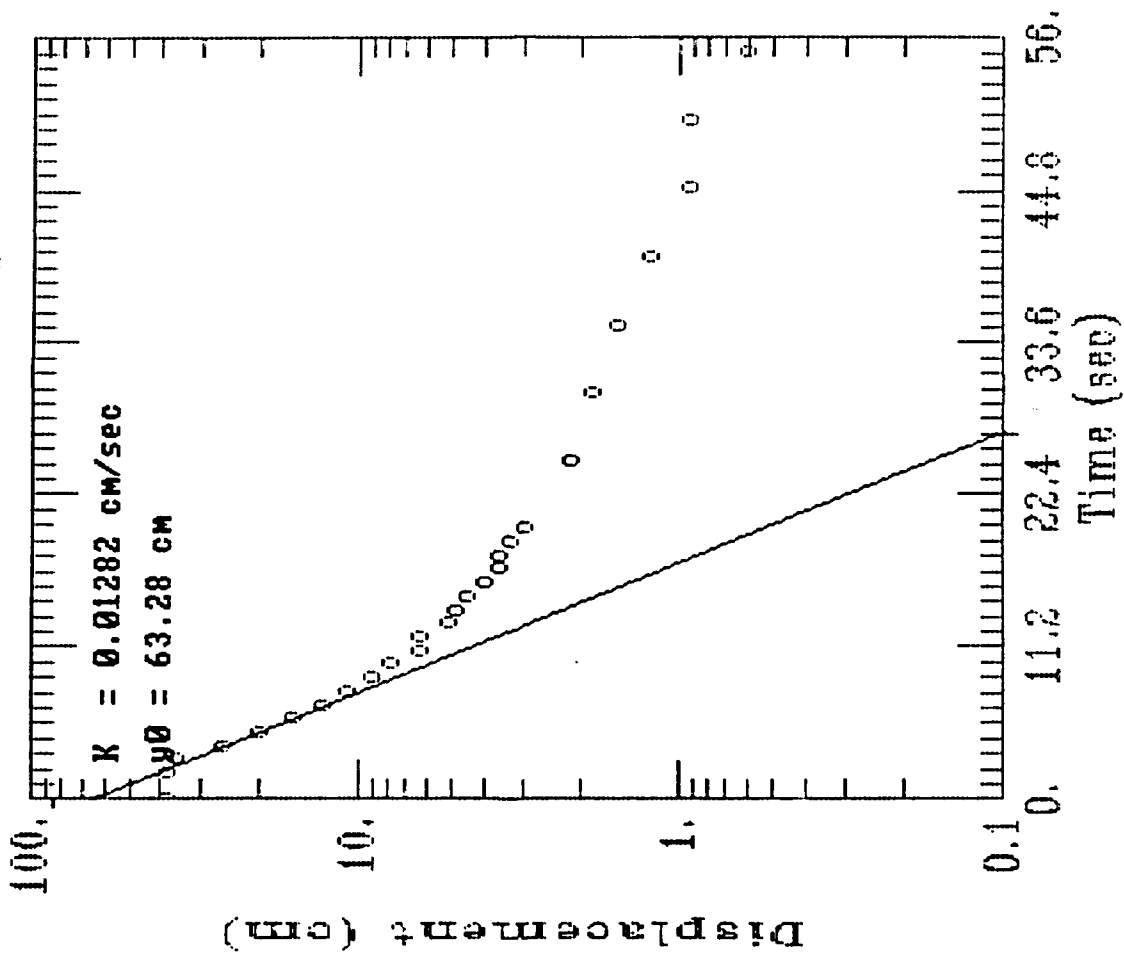
ELM-91-10 TEST #1



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& MILLER, INC.
Modeling Group

ELM-91-10 TEST #2

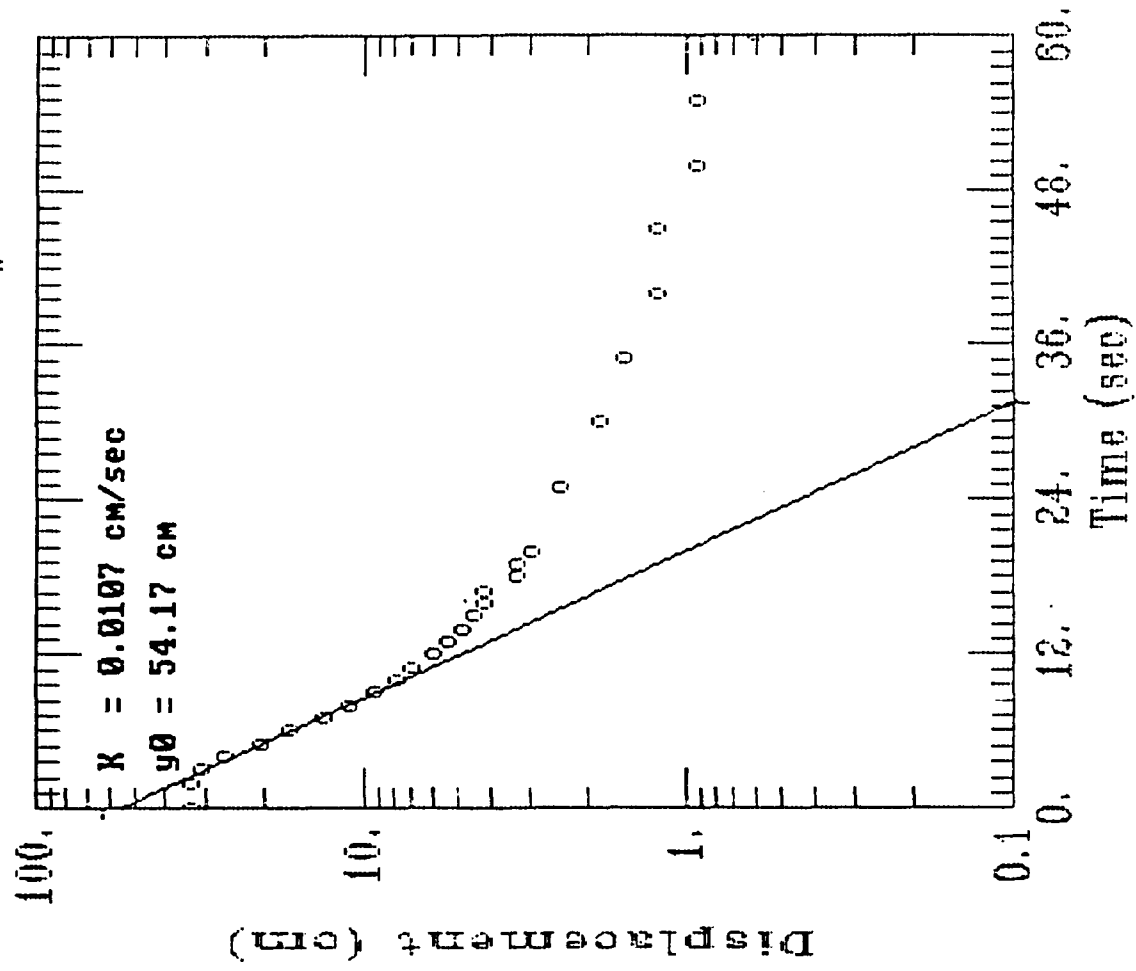


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GERAGHTY
& MILLER, INC.

Modeling Group

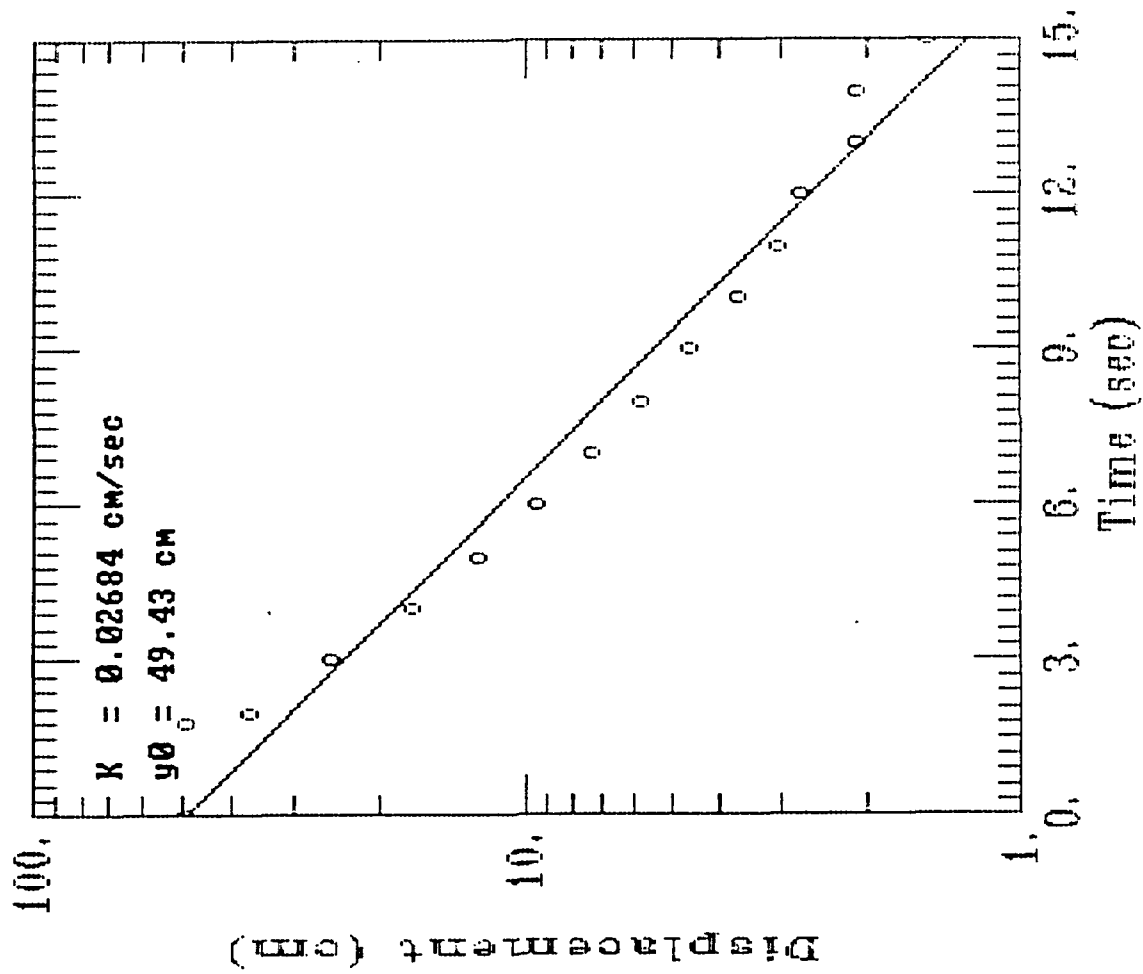
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GERAGHTY
& MILLER, INC.
Modeling Group

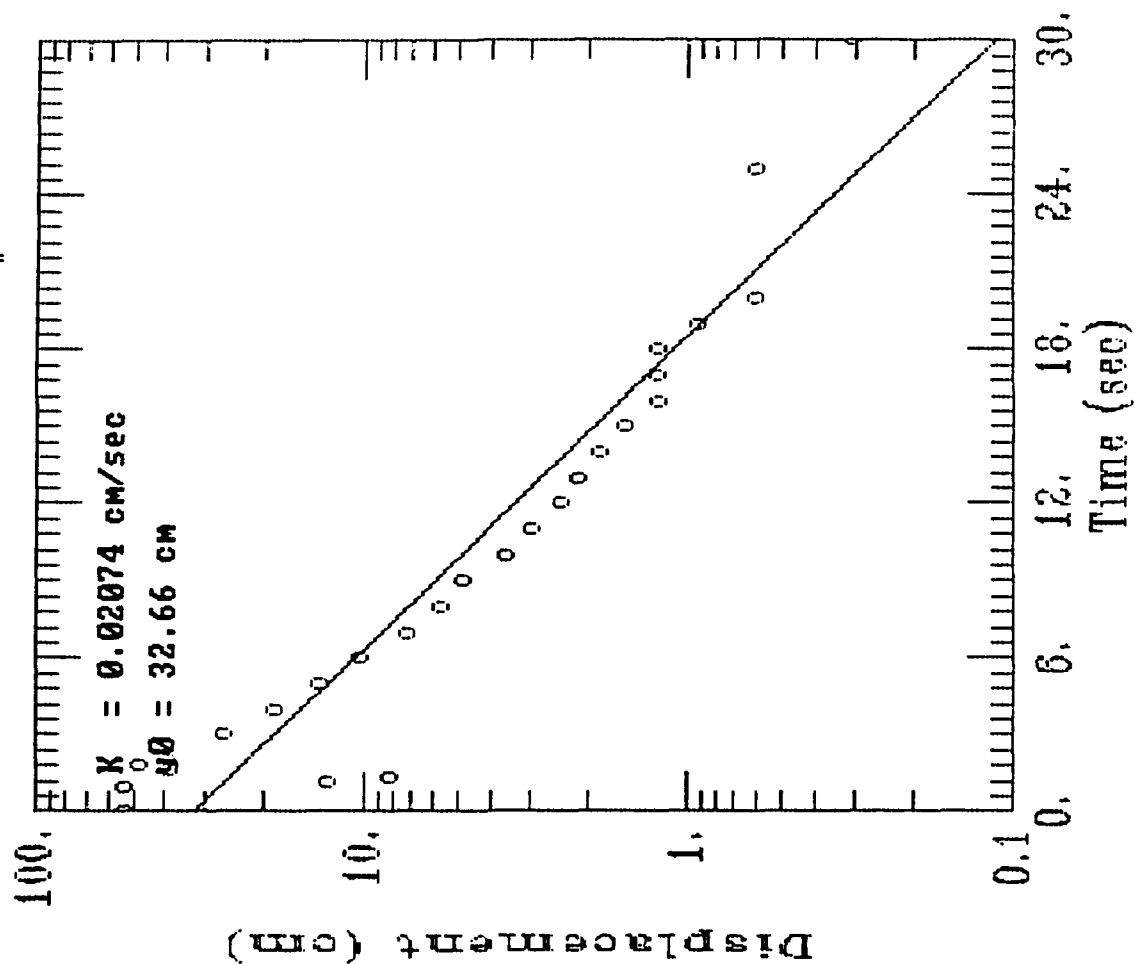
ELN-91-07A TEST #1



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& MILLER, INC.
Modeling Group

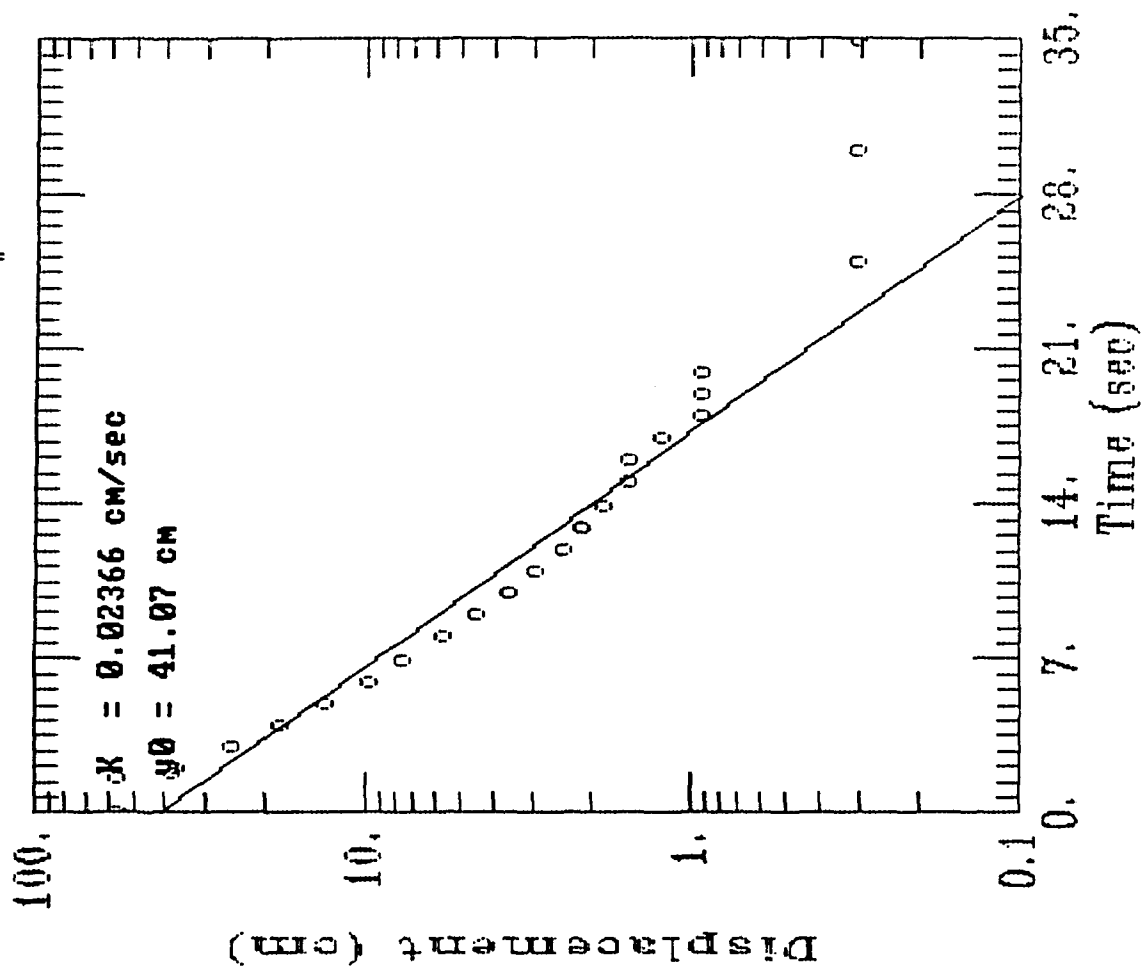
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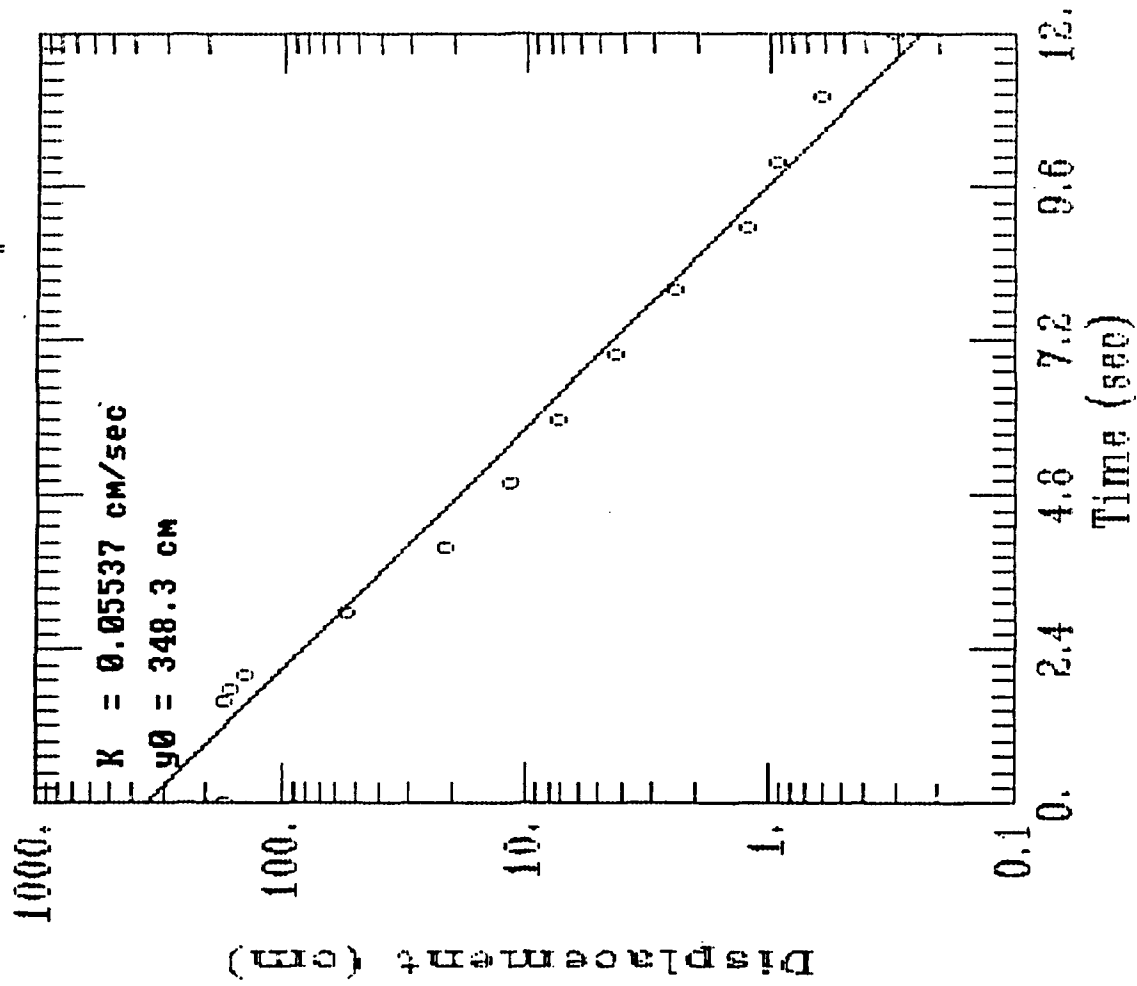


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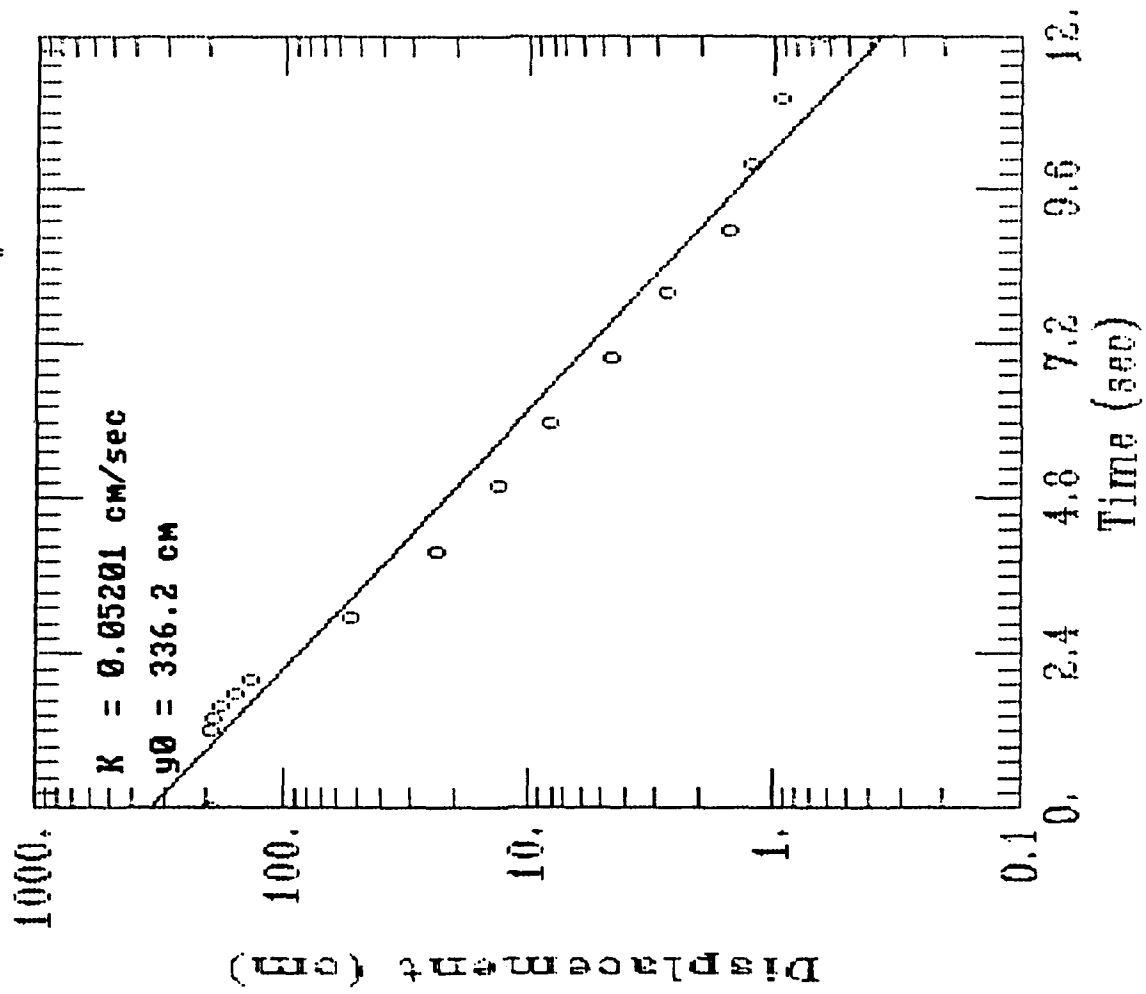
ELN-91-07B TEST #1



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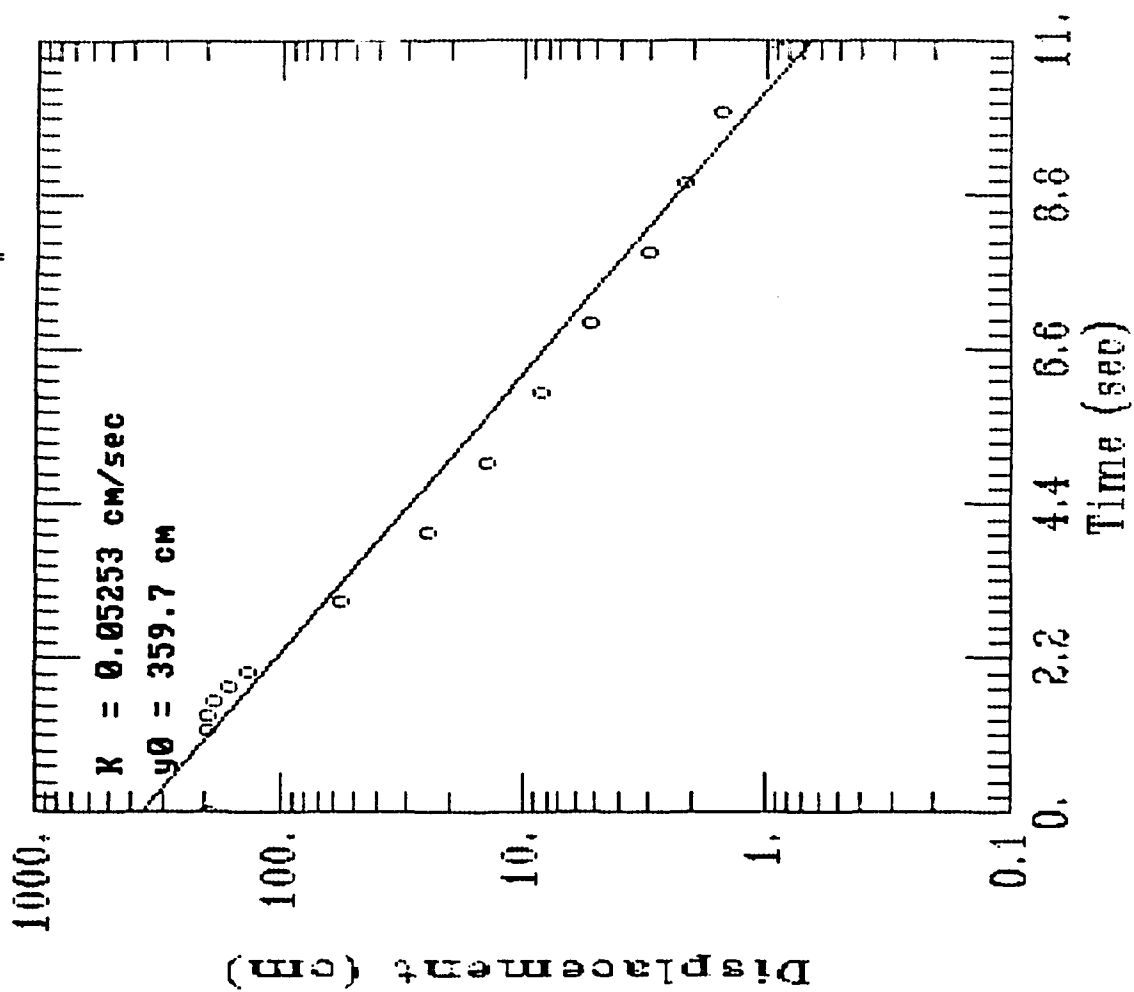
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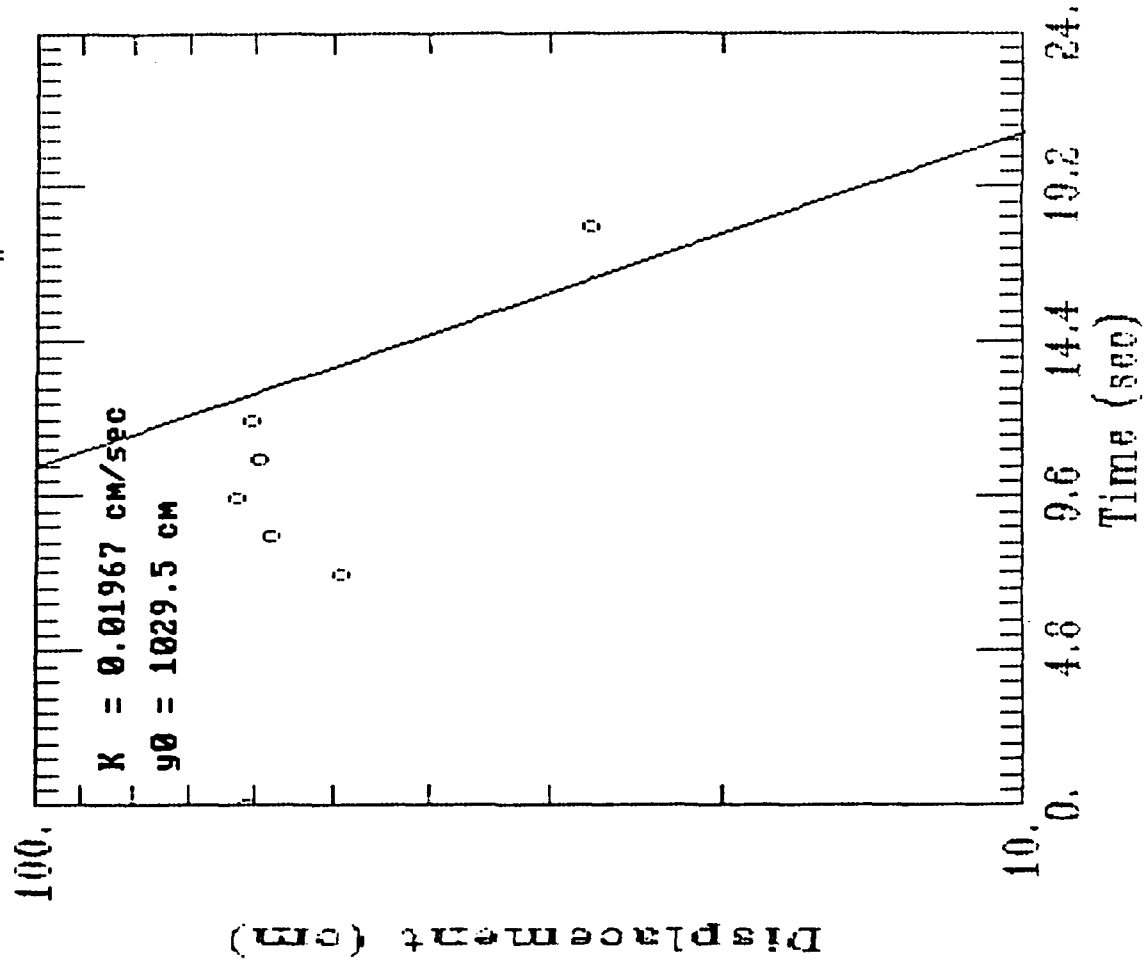
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ELN-91-07B TEST #3



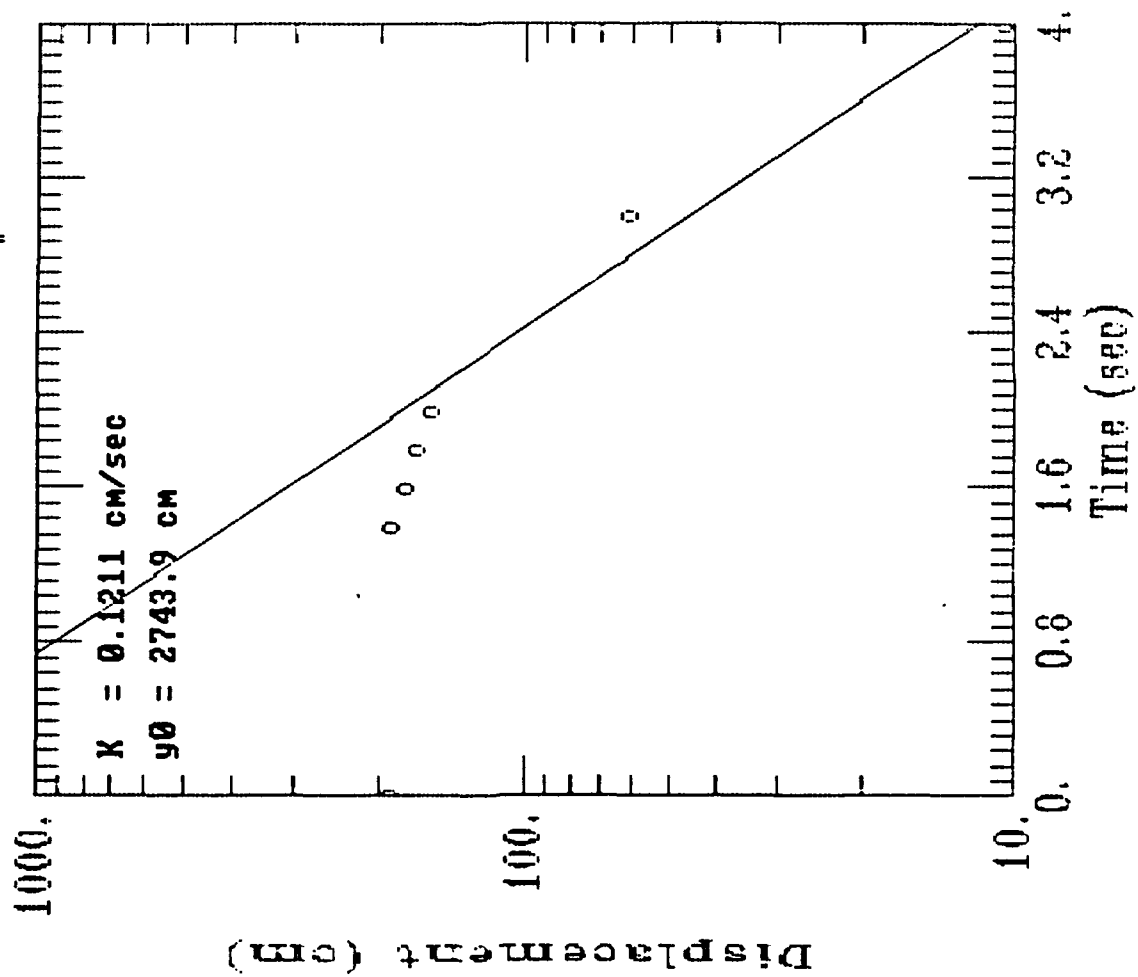
SWN-01-03B TEST#1



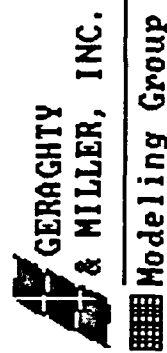
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SWN-91-03B TEST #2



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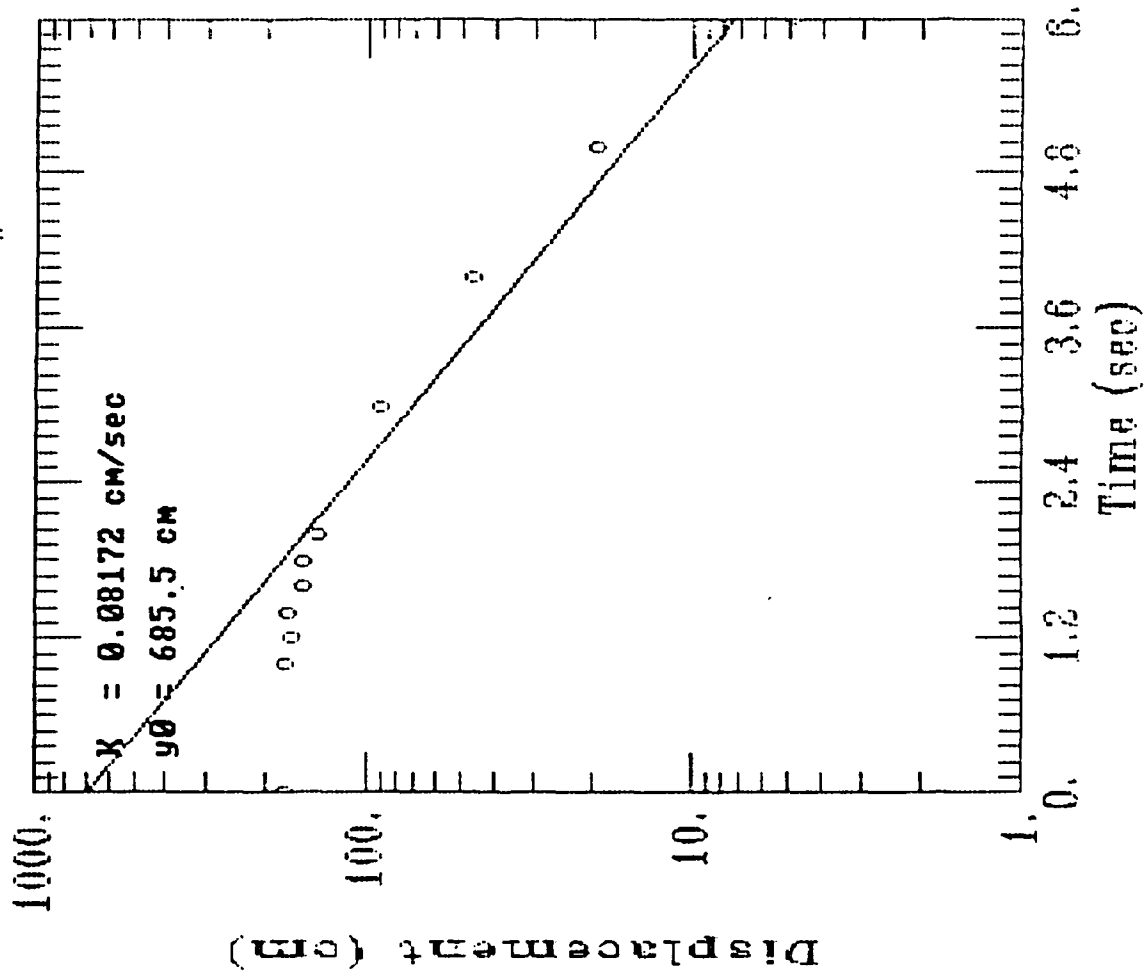


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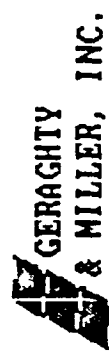
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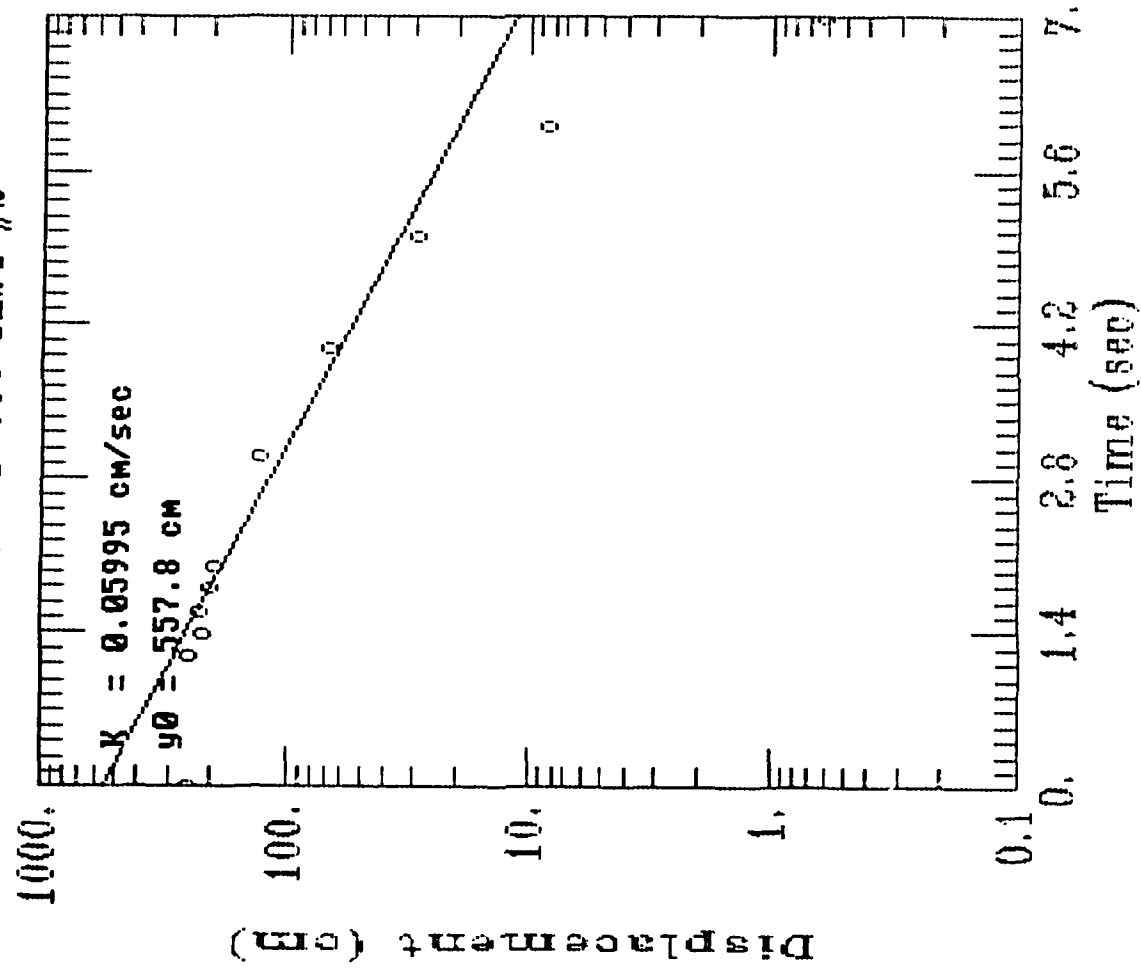


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SWN-01-03C TEST #2

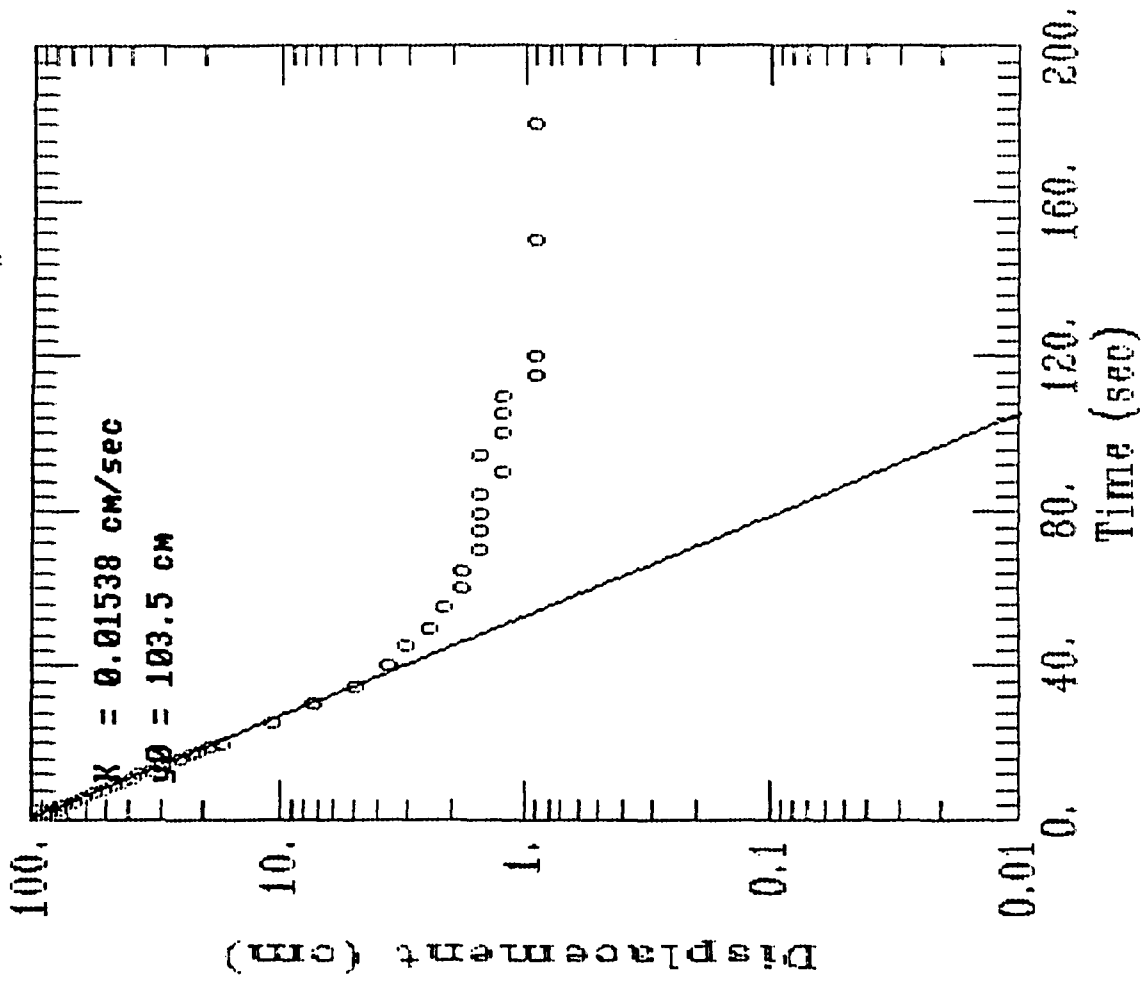


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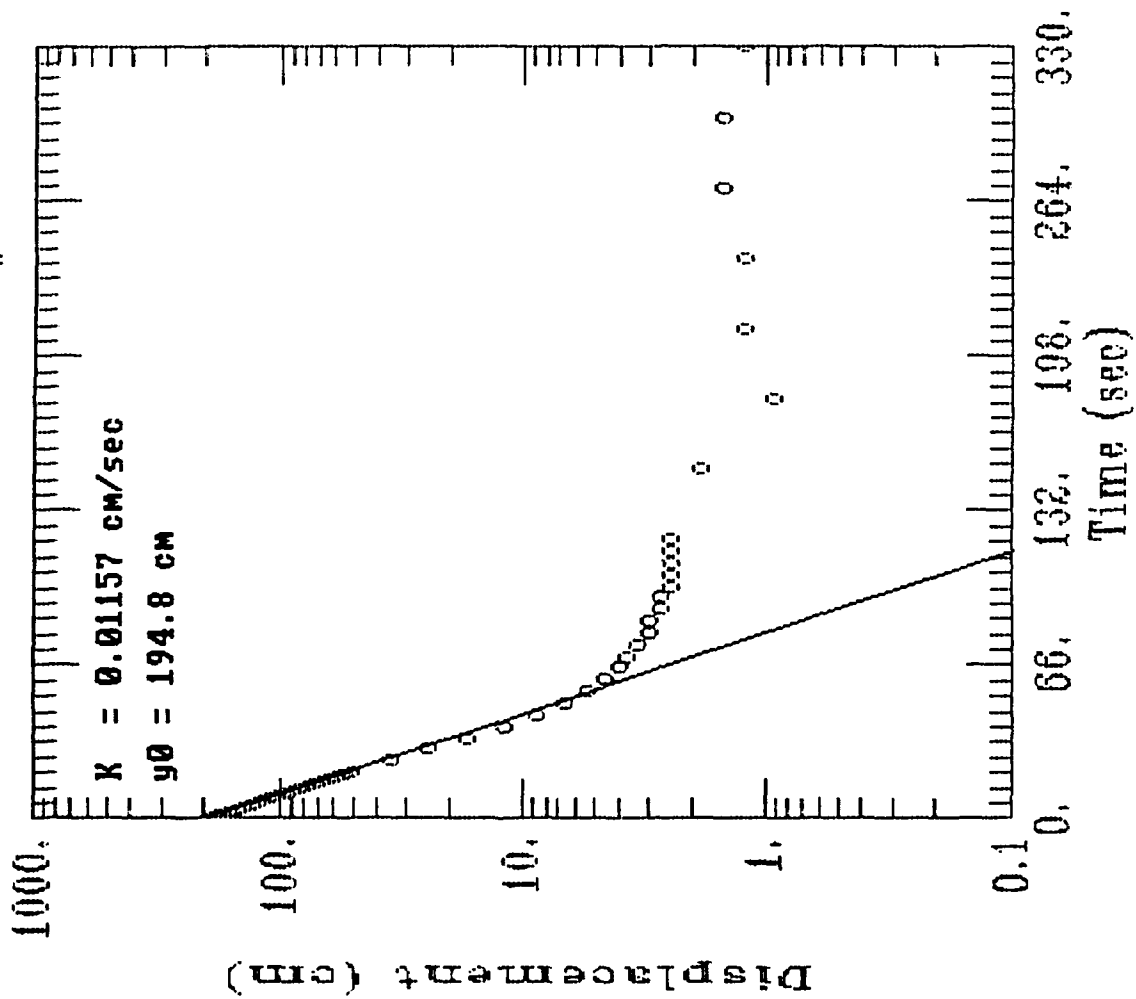
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Modeling Group

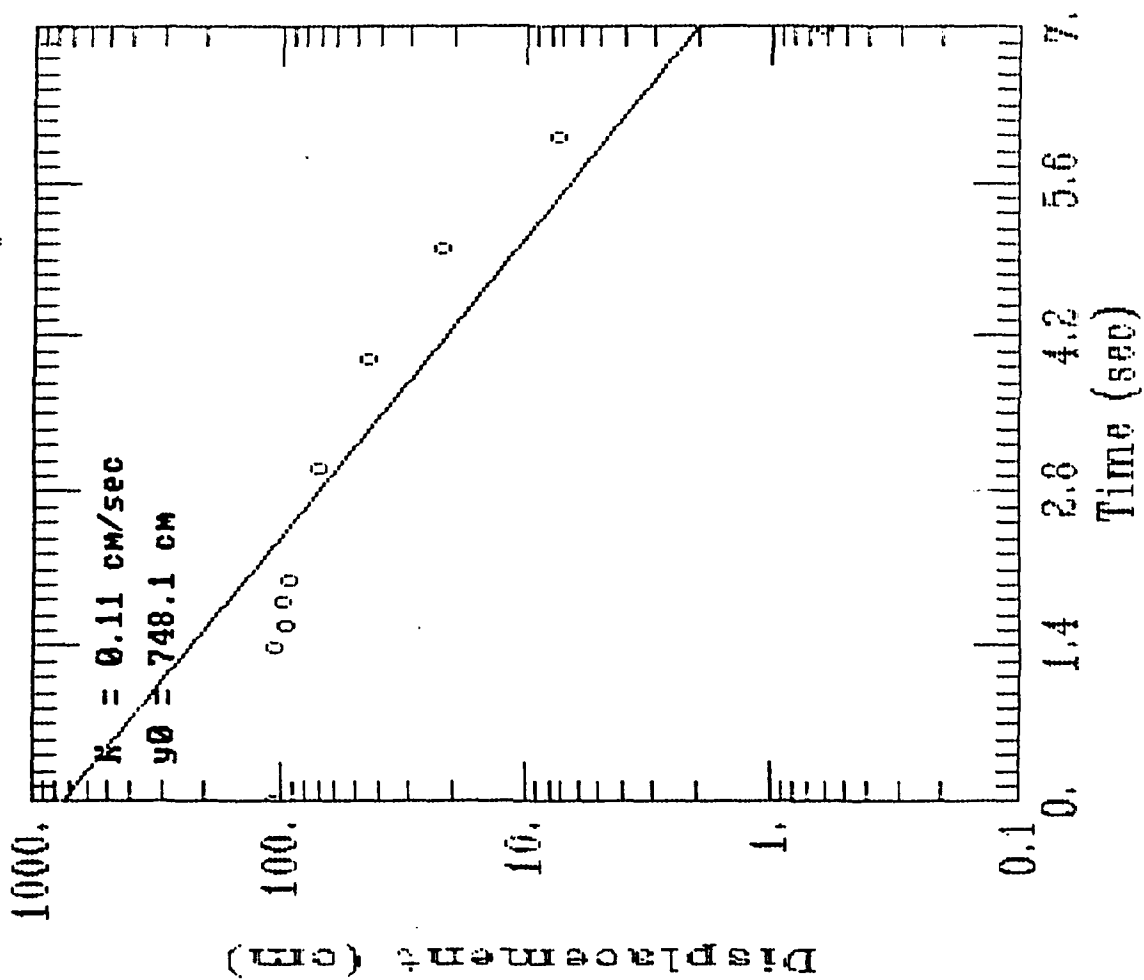
SWN-01-03E TEST #1



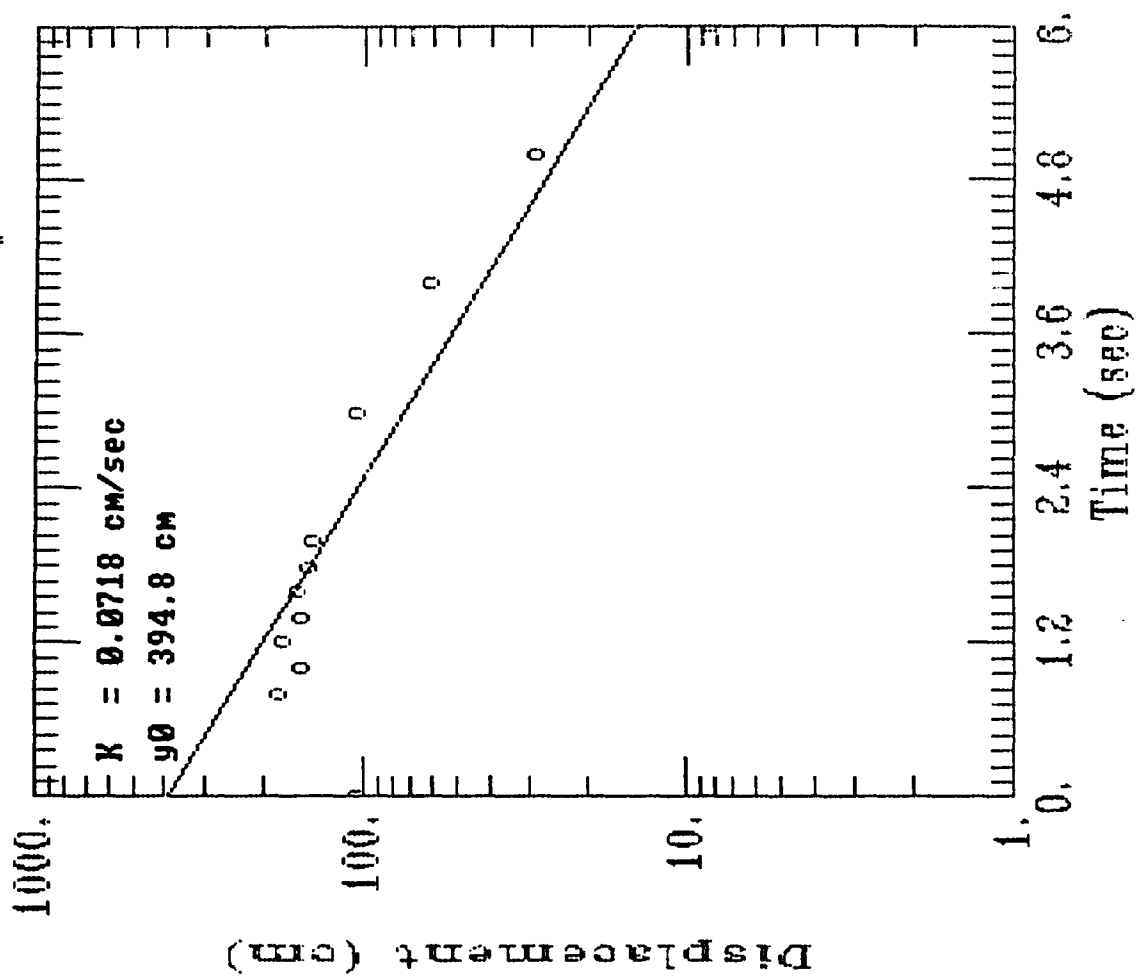
SWN-91-03E TEST #2



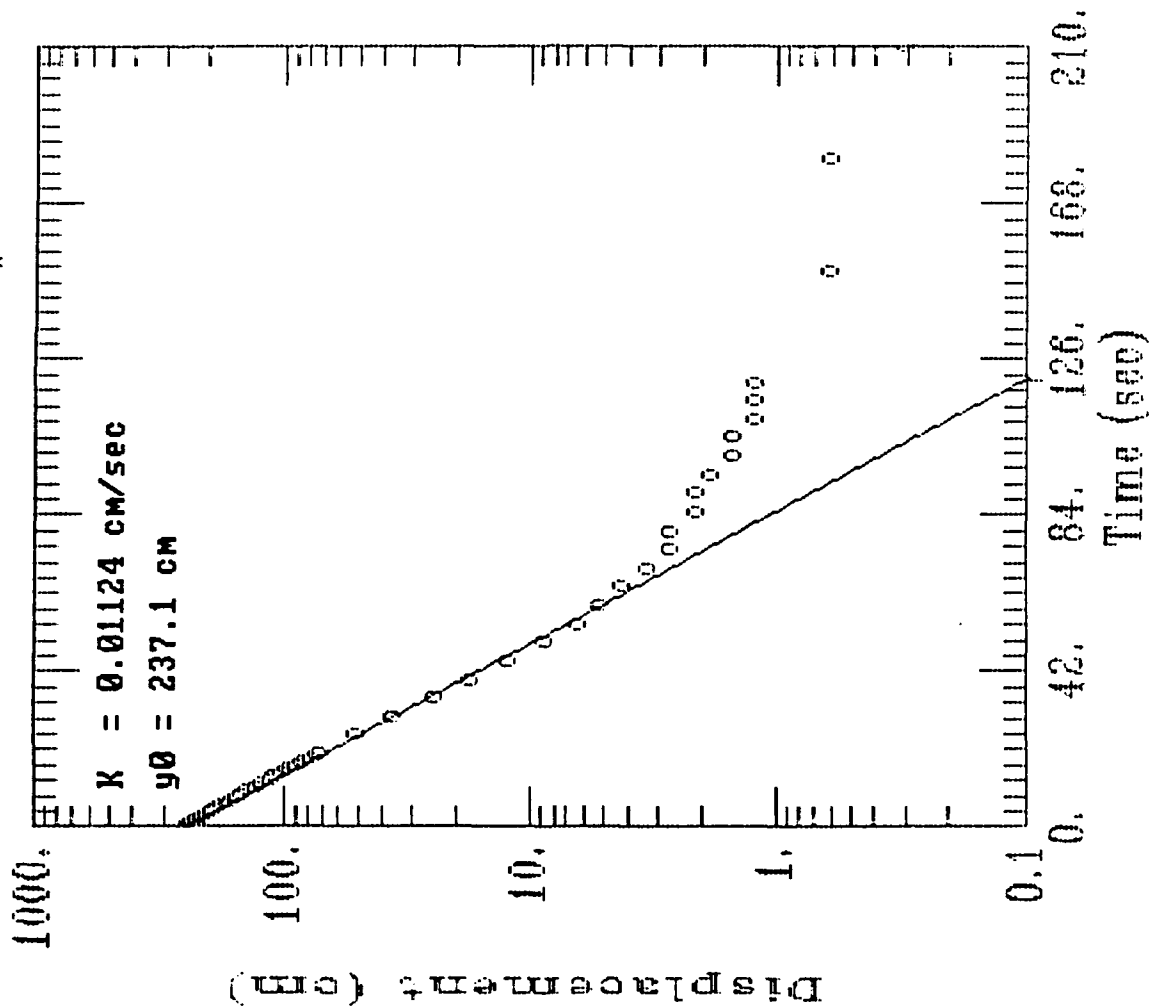
SWN-91-03D TEST #1



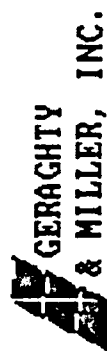
SWN-91-03D TEST #2



SWN-01-03E TEST #3



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APPENDIX J
AQUIFER TESTING AND MODELING

- J.1 Aquifer Pumping Test**
- J.2 Regional Groundwater Flow Model**
- J.3 Propellant Burning Ground Groundwater Flowmodel**

Appendix J.1
Aquifer Pumping Test

**REMEDIAL INVESTIGATION/FEASIBILITY STUDY
BADGER ARMY AMMUNITION PLANT**

**DRAFT
AQUIFER PUMPING TEST REPORT
DATA ITEM A009**

CONTRACT DAAA15-91-D-0008
TASK ORDER 1

Prepared for:

United States Army
Toxic and Hazardous Materials Agency
Aberdeen Proving Ground, Maryland

Prepared by:

ABB Environmental Services
Portland, Maine
Project No. 6853-11

**BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST**

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BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST

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**BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST**

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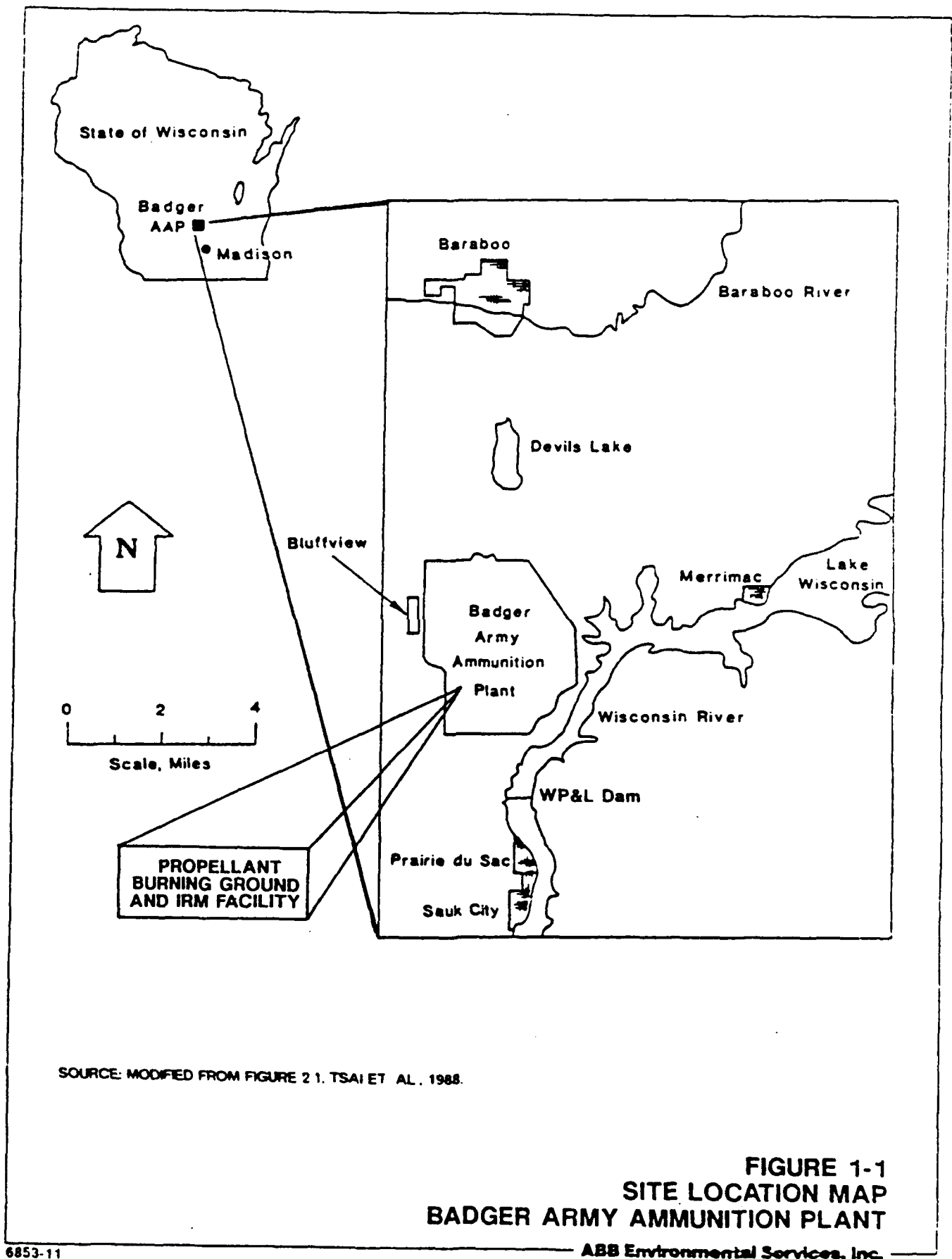
BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST

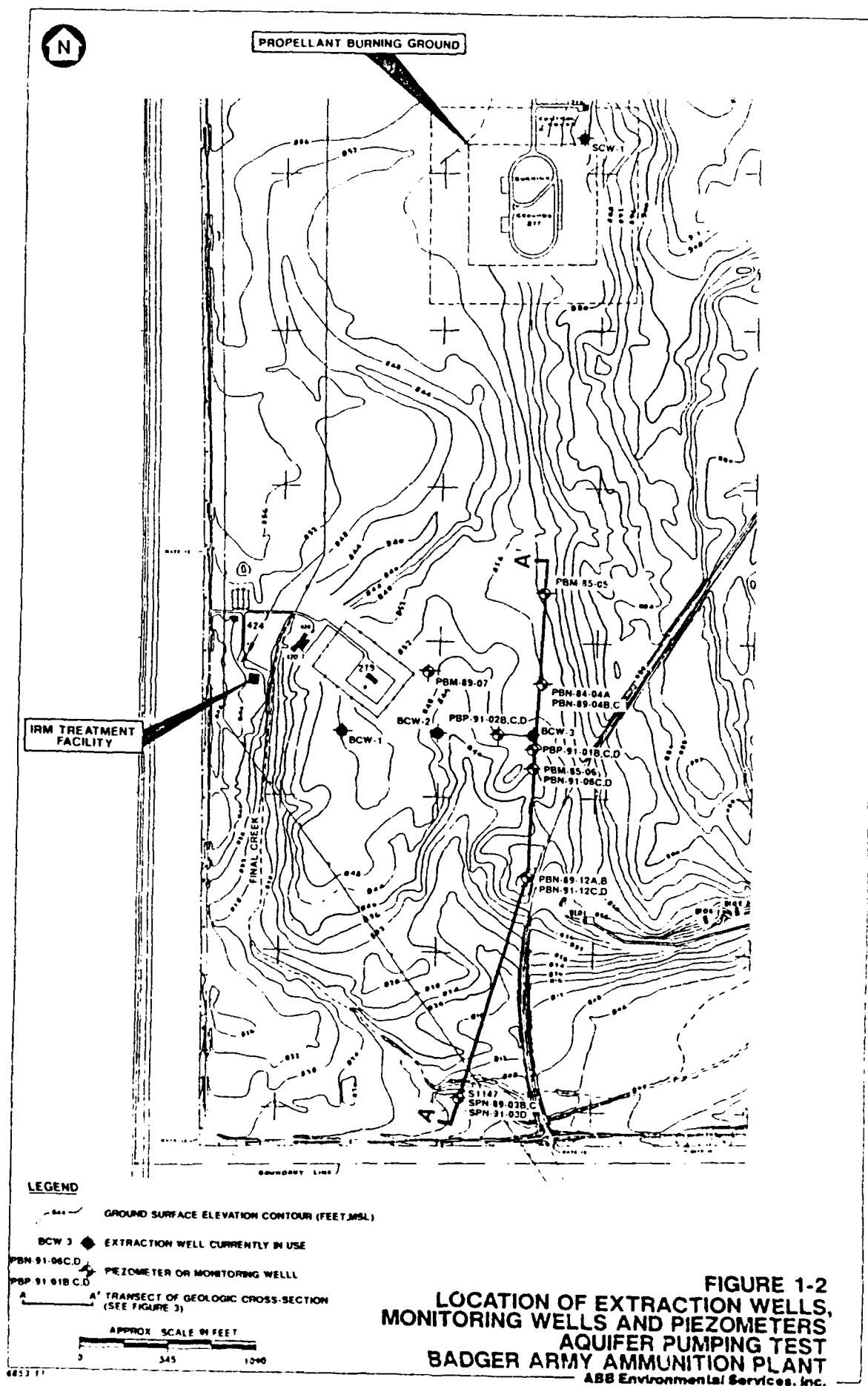
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1.0 SCOPE AND PURPOSE

In December 1991, an aquifer pumping test was performed by ABB Environmental Services, Inc. (ABB-ES) for the United States Army Toxic and Hazardous Materials Agency (USATHAMA) at the Badger Army Ammunition Plant (BAAP) in Baraboo, WI. The test was performed at the Interim Remedial Measure (IRM) extraction well BCW-3 in the southern area of the Propellant Burning Ground (Figures 1-1 and 1-2). The purpose of the test was to evaluate the hydraulic properties of the sand and gravel aquifer beneath BAAP, and the following report provides a description of the aquifer test and data analyses to quantify aquifer hydraulic properties. These tasks were conducted to meet the requirements of the Wisconsin Department of Natural Resources (WDNR) in the March 19, 1992 modification of the September 14, 1987 In-Field Conditions Report Approval for BAAP. The water quality in the vicinity of the IRM and the capture zone of the IRM extraction wells will be evaluated in the BAAP Remedial Investigation (RI) Report (Fall, 1992).





2.0 BACKGROUND

The IRM facility consists of a groundwater extraction and treatment facility for intercepting and stripping contaminated groundwater of volatile organic compounds (VOCs). In order to perform the aquifer test it was necessary to temporarily suspend pumping at the three extraction wells BCW-1, BCW-2, and BCW-3 associated with the IRM facility south of the Propellant Burning Ground to allow water levels to recover to static conditions (see Figure 1-2). It was not necessary to suspend pumping at extraction well SCW-1 in the Propellant Burning Ground, due to its distance from the test location (approximately 4,000 ft.).

On October 30, 1991 approval was granted by the WDNR to suspend pumping activities of wells BCW-1, BCW-2, and BCW-3 for the purpose of performing the aquifer test. The proposal for this aquifer test (presented in the ABB-ES Final Sampling Design Plan, October, 1991) was approved by the U.S. Environmental Protection Agency on November 22, 1991.

3.0 PREPARATIONS FOR THE AQUIFER PUMPING TEST

Table 3-1 provides a chronological summary of the events during the preparation for, and the performance of, the aquifer test. Piezometers PBP-91-01B,C,D and PBP-91-02B,C,D were installed by Layne Environmental of Tempe, Arizona under subcontract to ABB-ES in October 1991 in preparation for the aquifer test. Extraction wells BCW-1, BCW-2, and BCW-3 were shut down on December 5, 1991 to allow water level recovery to static conditions. On December 7, 1991, the 100 gallon per minute (gpm) pump was removed from BCW-3 and replaced by a 250 gpm pump. An increased pumping rate was deemed necessary to increase the stress to the aquifer, thereby enabling a better assessment of hydraulic characteristics of the aquifer.

An in-line, totalizing flow meter (manufactured by McCrometer of Hemet, California) was installed in the BCW-3 discharge line near the wellhead to provide a means of accurately measuring the pumping discharge (flow) rate. Flow meters available in the IRM treatment facility building were used as a backup for flow rate measurements. During the aquifer test, water from BCW-3 was piped through the existing collection system to the IRM treatment facility and treated before discharge to the Wisconsin River.

To monitor recovery of water levels after shutdown of the BCW-series wells, and to evaluate antecedent (prior to the start of pumping at BCW-3) water level trends, pressure transducers were installed in piezometers and monitoring wells near BCW-3 prior to the start of the test (Table 3-1). Before installation of these pressure transducers, water level measurements were taken from each well to an accuracy of one hundredth of a foot with a SOLINST™ electronic water level meter. The transducers were connected to Hermit™ data logging instruments for automated recording of water levels every hour. Piezometers and wells monitored by the data loggers were PBP-91-01B,C,D, PBP-91-02B,C,D, PBN-91-06C,D, and BCW-3 (Figure 1-2).

Water levels in monitoring well S1123, located to the northwest of the Propellant Burning Ground, were also monitored with a pressure transducer to evaluate regional water table fluctuations before, during, and after the constant-discharge test. In addition, manual water level measurements were taken at the following wells to assist in evaluating the cone of depression caused by the pumping test: PBN-85-04A, PBN-89-04B,C, PBM-85-05, PBM-85-06, PBM-89-07, PBN-89-12A,B, and

TABLE 3-1
CHRONOLOGICAL SUMMARY OF AQUIFER PUMPING TEST

AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT

DATE	DESCRIPTION OF EVENT
10/12/91 - 10/15/91	Piezometers PBP-91-01B,C,D and PBP-91-02B,C,D installed in preparation for the aquifer test.
12/5/91	<ul style="list-style-type: none"> - Antecedent trend monitoring started in PBP-91-01B,C,D and PBP-91-02B,C,D. - Monitoring of background water level fluctuations in S1123 begins. - Extraction wells BCW-1,2,3 shut down. - BCW-3 discharge line excavated by the Olin Corporation.
12/7/91	<ul style="list-style-type: none"> - 100 gpm pump pulled from BCW-3 and replaced by a 250 gpm pump. - Antecedent trend monitoring begins in PBN-91-06C,D.
12/9/91	- Antecedent trend monitoring begins in BCW-3.
12/10/91	<ul style="list-style-type: none"> - In-line flow meter installed in discharge line near BCW-3 wellhead. - 250 gpm pump in BCW-3 successfully tested.
12/11/91	- Constant-discharge test begins at 1600 hours.
12/12/91	- Constant-discharge test ends at 1630 hours, recovery begins.
12/13/91	- Monitoring of water levels for the recovery phase is terminated.
12/14/91	- Monitoring of water level at S1123 is terminated.
12/18/91	<ul style="list-style-type: none"> - 250 gpm pump removed from BCW-3. - Original (100 gpm) pump is reinstalled in BCW-3. - Flow meter is removed from BCW-3 discharge line and excavation is filled in.
12/19/91	- BCW-1,2,3 and IRM-facility returned to operational status.

Note:

Antecedent means prior to the start of pumping at BCW-3.

PBN-91-12C,D (see Appendix A for water level data sheets). The locations of these observation points are illustrated in Figure 1-2. Table 3-2 provides the radial distances of these observation points from BCW-3 and screened intervals of all wells and piezometers.

A north-south cross-section illustrating screened intervals of selected piezometers, monitoring wells, and BCW-3 is presented in Figure 3-1. Well screen designations A, B, C, and D represent progressively deeper installation intervals; that is, a well number without a letter suffix (e.g., PBM-85-05) or a well number with an A suffix (e.g., PBN-85-04A) represents a water table well. The B suffix (e.g., PBP-91-01B) represents an intermediate level well, while the C and D suffixes represent progressively deeper well-screen intervals. In general, the A and C series wells are screened in sand, and the B and D series wells are screened in sand and gravel. Boring logs and piezometer/well construction diagrams are presented as Appendix B. Groundwater flow direction in Figure 3-1 is from north to south. Figure 3-2 presents a pre-test water table contour plan for water levels measured on December 11, 1991.

In unconfined aquifers, such as the one underlying BAAP, air entrapped in pores below the water table is affected by changes in barometric pressure, resulting in changes in the water level (Todd, 1980). The relationship is inverse: decreases in barometric pressure produce increases in water levels, and conversely. To assess the influence of barometric pressure changes on water levels in the aquifer, a barometric probe in conjunction with a Hermit™ data logger was utilized to record barometric pressure every two hours. These measurements were supplemented with data obtained from the National Weather Service (NWS) in Madison, WI (Appendix C).

TABLE 3-2
LOCATION AND CONSTRUCTION INFORMATION FOR OBSERVATION WELLS/PIEZOMETERS

AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT

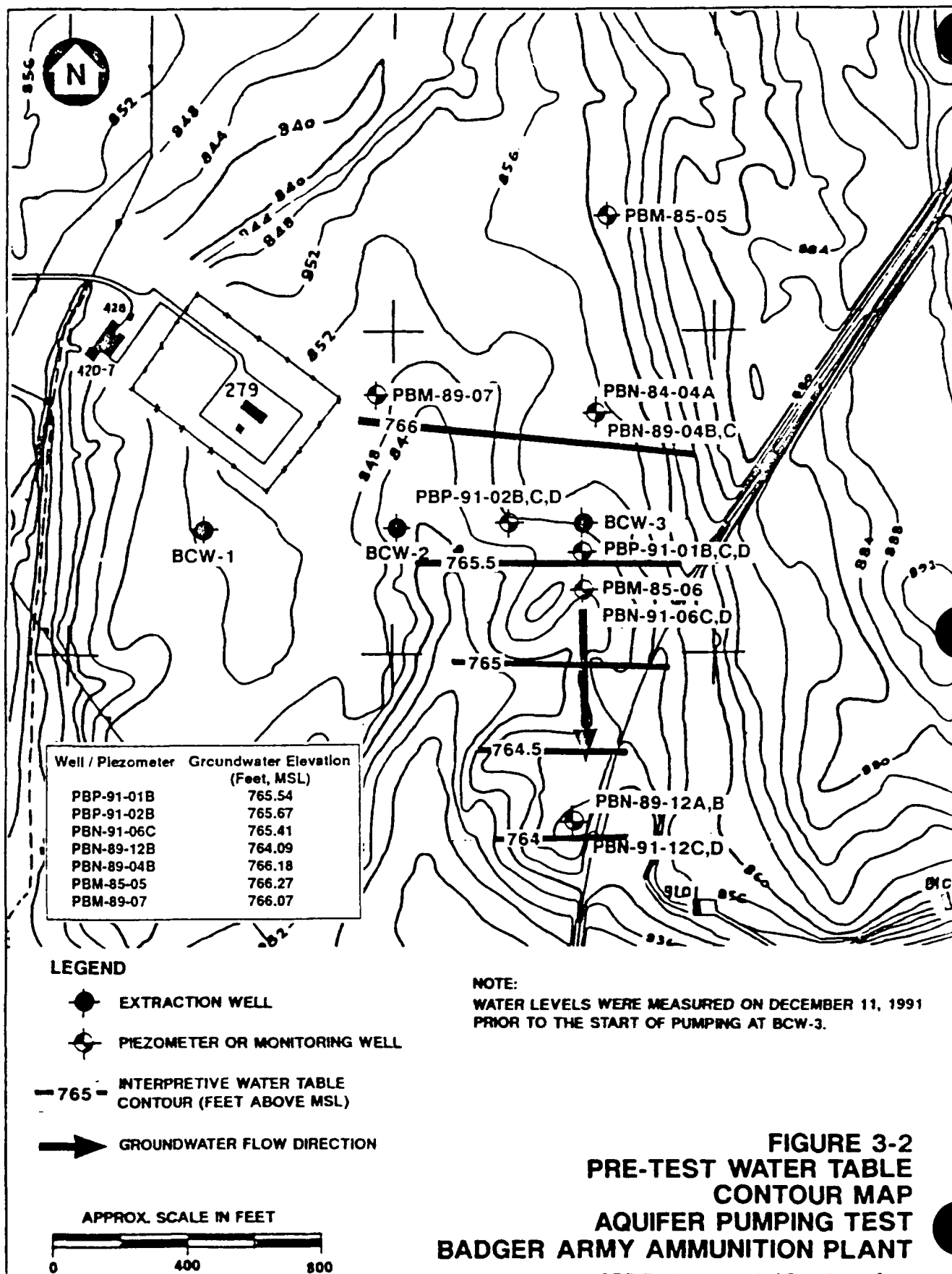
WELL/PIEZOMETER	RADIAL DISTANCE AND DIRECTION FROM PUMPING WELL BCW-3 (FEET)	SCREENED INTERVAL (FEET ABOVE MSL)	SCREEN LENGTH (FEET)
PBP-91-01B*	75 South	704 - 714	10
PBP-91-01C*	75 South	658 - 668	10
PBP-91-01D*	75 South	596 - 606	10
PBP-91-02B*	219 West	707 - 717	10
PBP-91-02C*	219 West	657 - 667	10
PBP-91-02D*	219 West	596 - 606	10
PBN-91-06C*	199 South	645 - 655	10
PBN-91-06D*	197 South	595 - 605	10
PBM-85-06	260 South	767 - 776	10
PBN-85-04A	~340 North	747 - 756	9
PBN-89-04B	~340 North	713 - 718	5
PBN-89-04C	~340 North	677 - 682	5
PBM-85-05	~1180 North	756 - 765	9
PBM-89-07	~710 Northwest	754 - 764	10
PBN-89-12A	~900 South	752 - 772	20
PBN-89-12B	~900 South	715 - 720	5
PBN-91-12C	~900 South	669 - 679	10
PBN-91-12D	~900 South	620 - 630	10
BCW-3*	0	690 - 770	80

Notes:

Radial distances for PBP-91-01B,C,D, PBP-91-02B,C,D, PBN-91-06C,D, and PBM-85-06 were measured in the field. Distances to other wells have been estimated from map coordinates.

MSL = mean sea level

* = Denotes wells/piezometers in which transducers were placed for automated recording of water levels

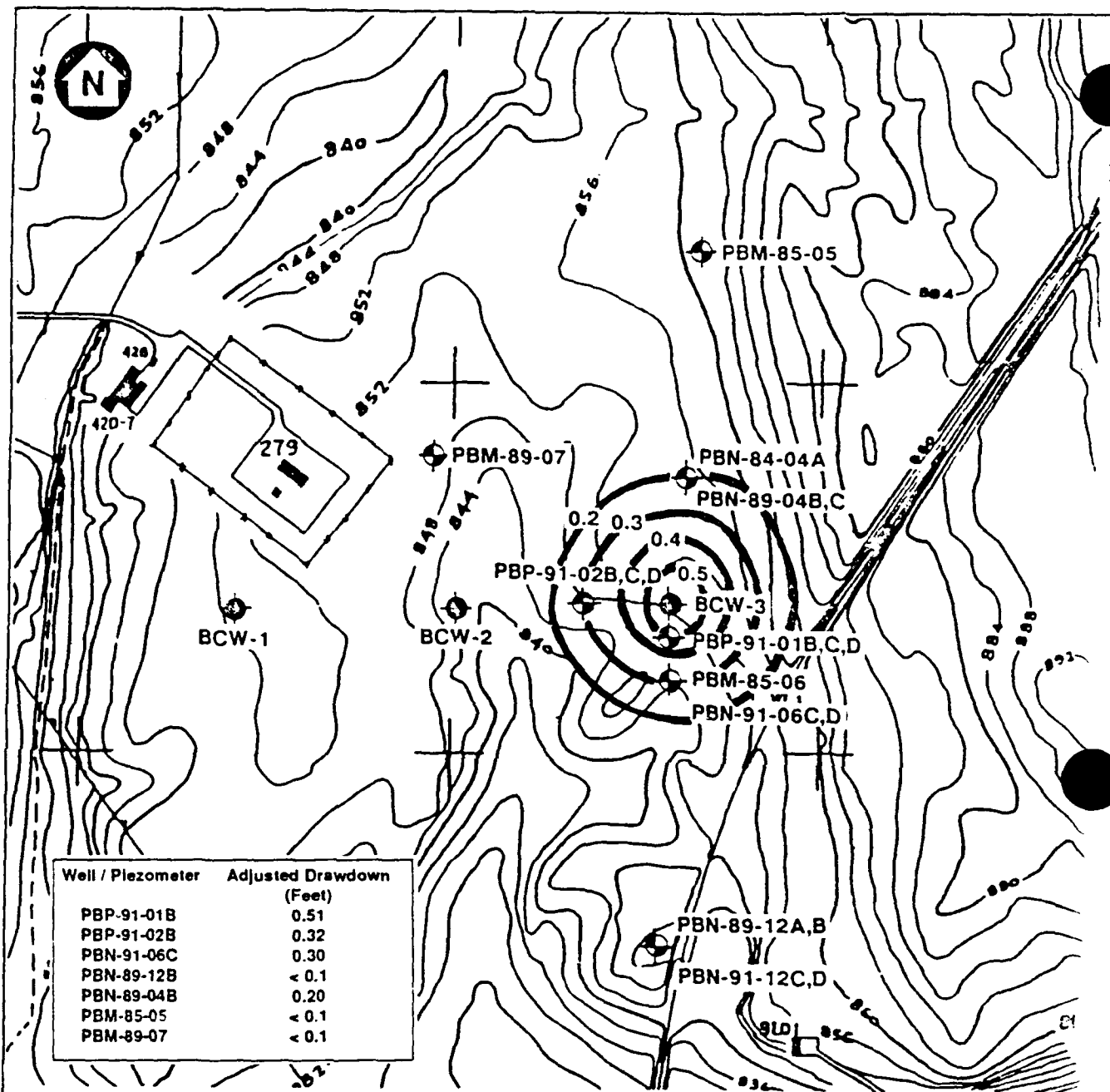


4.0 CONSTANT-DISCHARGE TEST

The constant-discharge test was started on December 11, 1991 at 4:00 PM (1600 hr.). The data logging instruments were programmed to record a high frequency of water-level readings, particularly during the first 100 minutes. Light to moderate rain associated with a low pressure system began falling at approximately 2:50 AM (0250 hr.) on December 12, 1992 and rain continued until approximately 2:00 PM (1400 hr.). By 1630 hours on December 12, 1991 (24.5 hours after the start of pumping at BCW-3), sufficient data had been collected to evaluate the hydraulic properties of the aquifer, and test pumping was terminated. The drawdown at the end of the pumping period is presented in Figure 4-1. The drawdown numbers presented in Figure 4-1 have been corrected for barometric and water level trend influences. The drawdown contours should not be interpreted as representing the capture zone of well BCW-3. Recovery of the aquifer head was monitored for 20.5 hours.

The average flow rate over the duration of the test was 205.3 gpm. Flow rate measurements and calculated averages are presented in Table 4-1. Note that two substantial deviations from the average flow rate occurred at approximately 567 and 819 minutes after the start of pumping. These deviations were short-term and did not impact the overall quality of the data gathered during the test. Water pumped from BCW-3 was piped to and treated by the IRM treatment facility.

The original 100 gpm pump was replaced and the flowmeter removed from the BCW-3 discharge line on December 18, 1991. Pumping at BCW-1, BCW-2 and BCW-3 was resumed on December 19, 1991.



LEGEND

- EXTRACTION WELL
- PIEZOMETER OR MONITORING WELL
- INTERPRETIVE DRAWDOWN CONTOUR (FEET)

NOTE: DRAWDOWNS HAVE BEEN ADJUSTED TO REFLECT
BAROMETRIC AND WATER LEVEL TREND INFLUENCES.

APPROX. SCALE IN FEET



**FIGURE 4-1
DRAWDOWN ACHIEVED
DURING TEST PERIOD
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT**

ASB Environmental Services, Inc.

TABLE 4-1
BCW-3 FLOW RATE MEASUREMENTS

AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT

DATE	TIME	ELAPSED TIME SINCE PUMP ON (MINUTES)	FLOWMETER TOTALIZER READING (GALLONS)	FLOW RATE BETWEEN READINGS (GPM)
12/11/91	16:00:00	0	1526000	
	16:32:00	32	1532500	203.1
	16:47:00	47	1535680	212.0
	17:12:00	72	1540800	204.8
	17:32:46	93	1545100	207.1
	17:47:46	107	1548200	206.7
	19:15:15	195	1566200	205.8
	19:58:00	238	1575000	205.8
	20:49:15	289	1585500	204.9
	21:33:00	333	1594500	205.7
	22:29:00	389	1606000	205.4
	23:39:35	460	1620500	205.4
12/12/91	00:55:00	535	1635000	192.3
	01:04:45	545	1637000	205.1
	01:26:37	567	1642500	251.5
	01:38:50	579	1645000	204.6
	02:51:40	652	1660000	205.9
	04:06:30	727	1675400	205.8
	04:14:30	735	1677075	209.4
	05:32:00	812	1693050	206.1
	05:39:30	819	1694150	146.7
	07:10:00	910	1713175	210.2
	07:40:30	941	1719325	201.6
	08:55:00	1015	1734225	200.0
	09:32:00	1052	1741700	202.0
	10:43:00	1123	1756175	203.9
	13:27:25	1287	1790000	205.7
	16:30:00	1470	1827750	206.8
TIME-WEIGHTED AVERAGE FLOW RATE FOR TEST:				205.3

Note:

Flowmeter readings from McCrometer™ flowmeter installed in BCW-3 discharge line.

5.0 BAROMETRIC AND ANTECEDENT TREND EFFECTS ON AQUIFER TEST DATA

Prior to analysis of the aquifer test data, the antecedent water level data were examined for influences by external factors that have the potential to cause substantial error in computing hydraulic properties. These factors are water level changes caused by barometric pressure variation and rising or falling water level trends in the aquifer. The unexpected delays in the start-up of the constant-discharge test provided enough time to collect sufficient data from piezometers PBP-91-01B,C,D and PBP-91-02B,C,D to evaluate barometric effects on water levels and the trend of water level fluctuations as a result of regional influences (see Appendix D for antecedent water level data).

Review of the barometric pressure data recorded by the on-site barometric probe indicated malfunctioning of this probe. As a result, the NWS barometric data from Madison, WI, was used in the data reduction and analysis process. Although the data from the barometric probe are considered unusable, the periods of high and low pressure correlate well with those of the NWS data (Figure 5-1), and observed fluctuations in water levels.

Because all water levels in wells and piezometers fluctuated nearly in unison the barometric efficiency of the aquifer was calculated by the method given in Todd (1980) using water level data from PBP-91-01B and barometric data from the NWS in Madison, WI. The calculated barometric efficiency of this aquifer is 0.05 (Table 5-1), which is in the range reported for unconfined aquifers (Todd, 1980). The drawdown and recovery data were then adjusted by converting the change in barometric pressure to an equivalent change in feet of water, multiplying this value by the barometric efficiency, and adding/subtracting this value to/from the measured water level to obtain the adjusted water level. Drawdown and recovery data adjusted for water level trend and barometric effects are included as Appendices E and F.

Review of the hydrographs in Figure 5-2 indicates a regional rise in groundwater level prior to the start of the constant-discharge test. Before an average linear increase in head per unit of time could be calculated, the effect of barometric pressure changes on the aquifer head were removed. Well PBP-91-01B was selected as representative of natural water level fluctuations at the test site. The water levels at the times of a specific barometric pressure (normalized values) were plotted versus time, and a rising water level trend of 0.026 ft/day resulted. This trend was

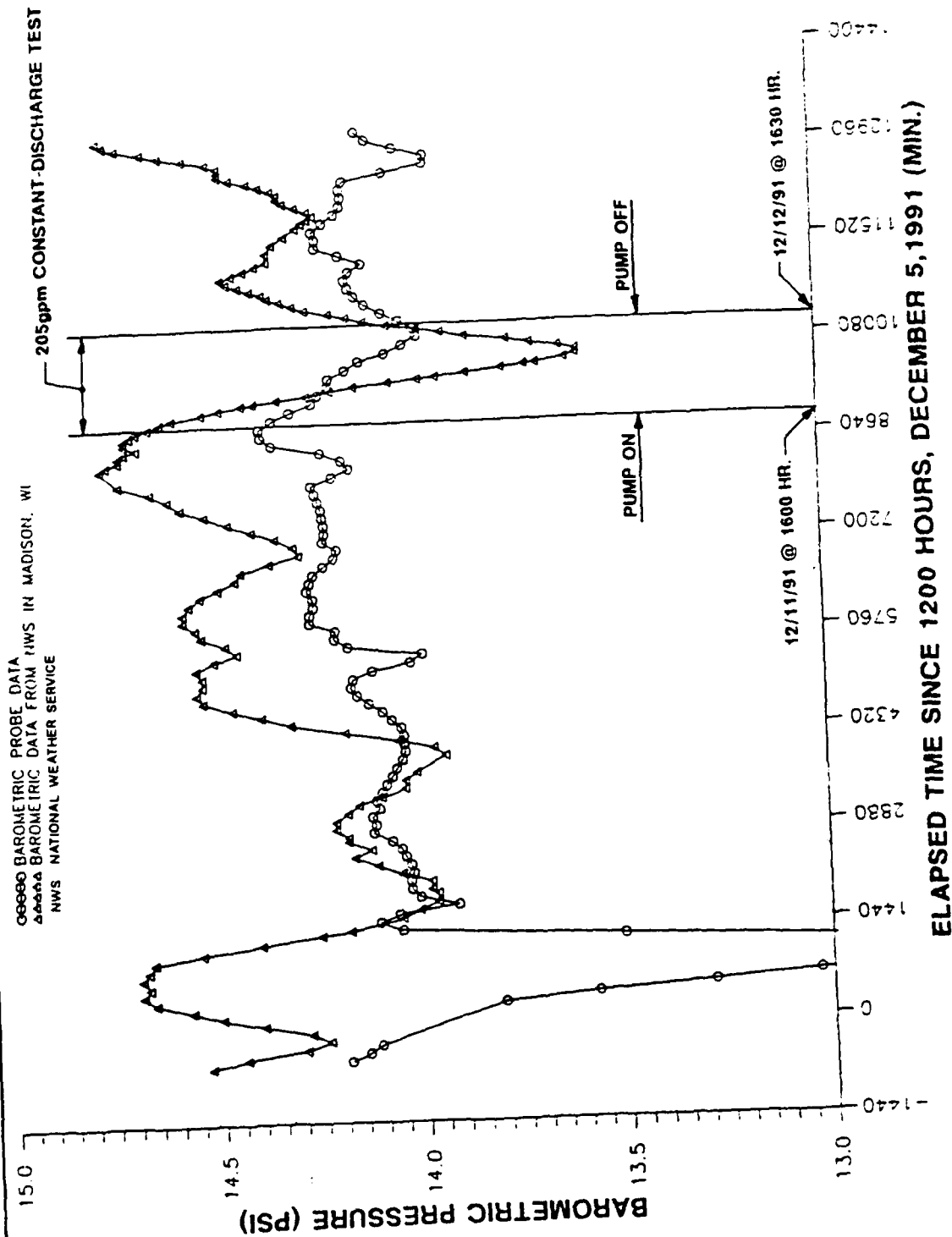


FIGURE 5-1
COMPARISON OF BAROMETRIC DATA
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT
ABB Environmental Services, Inc.

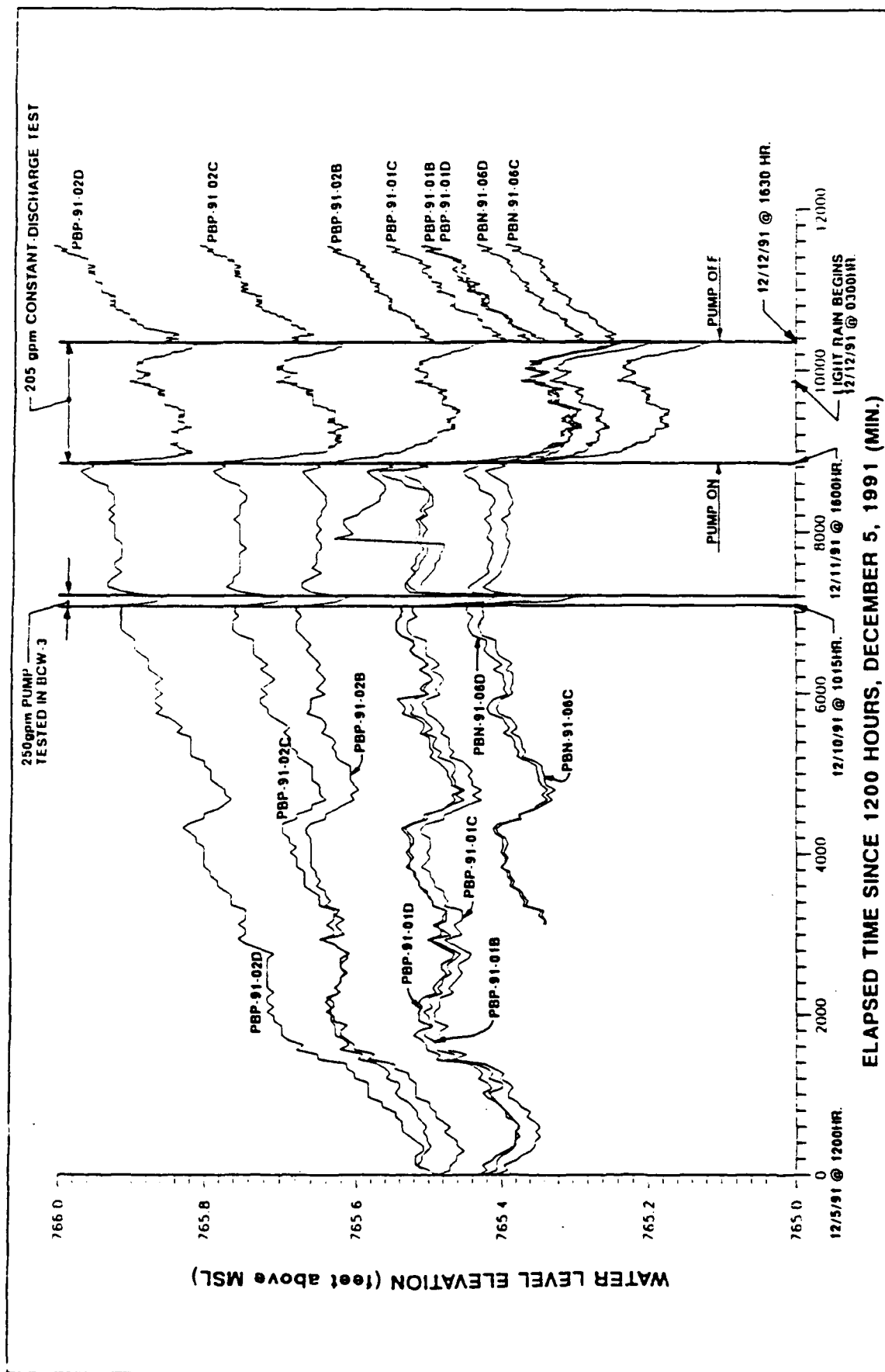


FIGURE 5-2
PIEZOMETER AND WELL HYDROGRAPHS
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT
 ABB Environmental Services, Inc.

TABLE 5-1
BAROMETRIC EFFICIENCY CALCULATION
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT

ELAPSED TIME SINCE 12/5/91 @1200 hrs (minutes)	ADJUSTED TIME (minutes)	GROUNDWATER ELEVATION (FEET, MSL)	GROUNDWATER ELEVATION CORRECTED FOR INCREASING WATER LEVEL TREND		ATMOSPHERIC PRESSURE	
			(FEET, MSL)	(METERS, MSL)	(PSI)	(N/m ²)
711	0	765.39	765.39	233.29	14.69	101318.93
1894	1183	765.50	765.48	233.32	13.96	96284.02
3962	3251	765.53	765.47	233.32	13.93	96077.11
4929	4218	765.47	765.40	233.29	14.535	100249.88
AVERAGE dH/dPa:						
5.43E-06						
BAROMETRIC EFFICIENCY						
= rho*g*(avg. dH/dPa):						
0.05						

NOTES: Data used in calculations is from piezometer PBP-91-01B

H = head

Pa = atmospheric pressure

dH/dPa = change in groundwater elevation per change in atmospheric pressure

rho = density of water

g = gravity

SECTION 5

calculated from water level data between December 9 and December 11, 1991. All drawdown and recovery data were consequently adjusted for this trend (Appendices E and F).

6.0 ANALYSIS OF THE AQUIFER TEST DATA

The groundwater flow system beneath BAAP is unconfined, and receives recharge from direct infiltration of precipitation. The depth to water from ground surface in the vicinity of BCW-3 is approximately 85 feet, and the saturated thickness of the aquifer is approximately 175 feet (see Figure 3-1). The following sections discuss the methods used in the analysis of the drawdown and recovery data to obtain estimates of the hydraulic parameters (e.g., transmissivity and specific yield) of the aquifer.

6.1 ANALYSIS OF DRAWDOWN DATA

The following subsections discuss the methods of Boulton (1963) and Jacob (1946) used in the analysis of the drawdown data. Raw and adjusted (for barometric and trend effects) data are included as Appendix E.

6.1.1 Boulton Delayed-Yield Analysis

Drawdown of the aquifer test was analyzed using the Boulton method (1963). Using this method the drawdown data are plotted versus time on a log-log scale; time is plotted horizontally and drawdown is plotted vertically. The Boulton delayed-yield method is based on the Theis method, using curve matching of log-log plots of drawdown versus time. This method takes into account the delayed, gravity drainage of groundwater from aquifer materials within the drawdown depression created by pumping. The time-drawdown curve of a well or piezometer in a pumped, unconfined aquifer exhibiting delayed-yield is composed of three distinct segments:

- 1) early-time data showing a Theis-type curve, which under favorable conditions can be used to compute an early-time storage coefficient (S_e) and transmissivity (T). However, S_e does not represent true aquifer storativity;
- 2) a middle segment of nearly flat slope, which departs from the Theis-type curve as a result of gravity drainage of water from the interstices of the aquifer materials above the drawdown water table; and

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- 3) a late-time segment that gradually returns to the Theis-type curvature, and from which it is possible to obtain estimates of true aquifer storativity (S_1) and transmissivity (T).

The three segments are readily apparent in the Boulton delayed-yield type curves (Figure 6-1). Data from the following wells and piezometers were analyzed using the Boulton method: PBP-91-01C,D, PBP-91-02B,C,D, and PBN-91-06C,D. Log-log data plots for these wells, corrected for a general rising water level trend of 0.026 feet/day and fluctuations in barometric pressure, closely resemble and were fitted to, the Boulton delayed-yield type-curves.

The data plot for PBP-91-01B could not be fitted to any Boulton type-curve, and therefore, drawdown data were not analyzed. This well differs from the others in that its screen is vertically directly opposite the screen of the pumped well at a distance of 75 feet, whereas the shortest distance between the pumped well screen and other observation well screens (including PBP-91-01C) is significantly greater. As a result of the relative closeness of the PBP-91-01B screen, drawdown during the crucial first minute is less (by unknown amounts) than the Boulton equation predicts due to vertical components of flow that were created by partial penetration of the aquifer of the pumped well screen. Also, it is likely that the effect on recorded drawdown of pumping rate fluctuation later in the test is greater at the location of the PBP-91-01B well screen than at other observation well screens. Because corrections to the data for pumping rate deviations are not possible, the overall usefulness of the drawdown data in curve matching is further diminished. An example of the Boulton method curve-matching and aquifer hydraulic parameter calculation is illustrated in Figure 6-2. Boulton method analyses for each well or piezometer are provided in Appendix G.

6.1.2 Jacob Drawdown Analysis

The late-time drawdown data may also be analyzed by the Cooper and Jacob method (1946), commonly known as the Jacob straight-line method. The drawdown data are plotted versus time on semi-logarithmic paper; time is plotted horizontally on the logarithmic scale and drawdown is plotted vertically on the arithmetic scale. If the test is run long enough and the radial distance from the pumping well is not too great the late-time data will plot along a straight line. The basis for this method is the Theis equations:

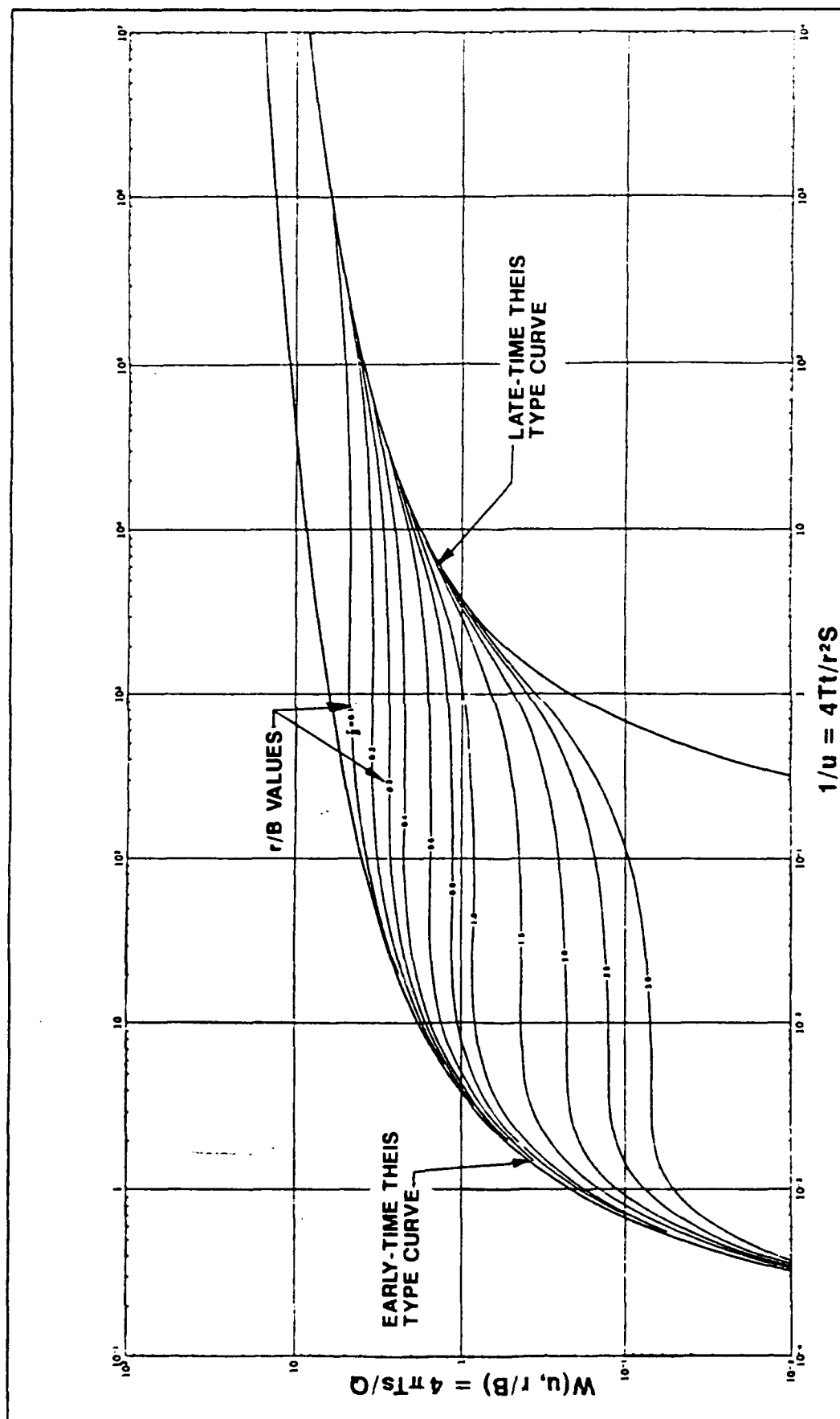
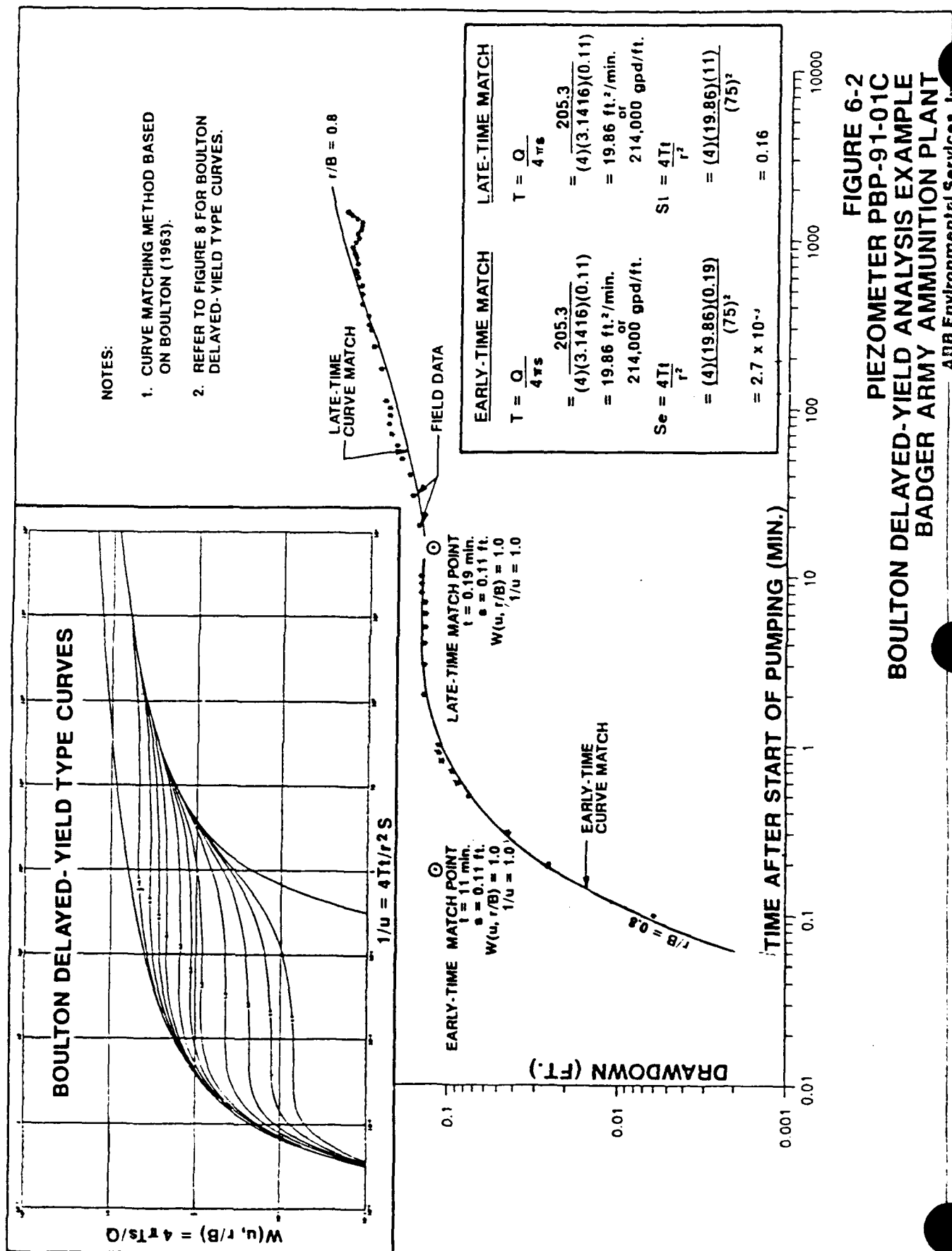


FIGURE 6-1
BOULTON DELAYED-YIELD TYPE CURVES
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT
ABB Environmental Services, Inc.

SOURCE: USGS PROFESSIONAL PAPER 708



$$u = \frac{1.87r^2S}{Tt}$$

and

$$W(u) = \frac{s(r,t)T}{114.6 Q}$$

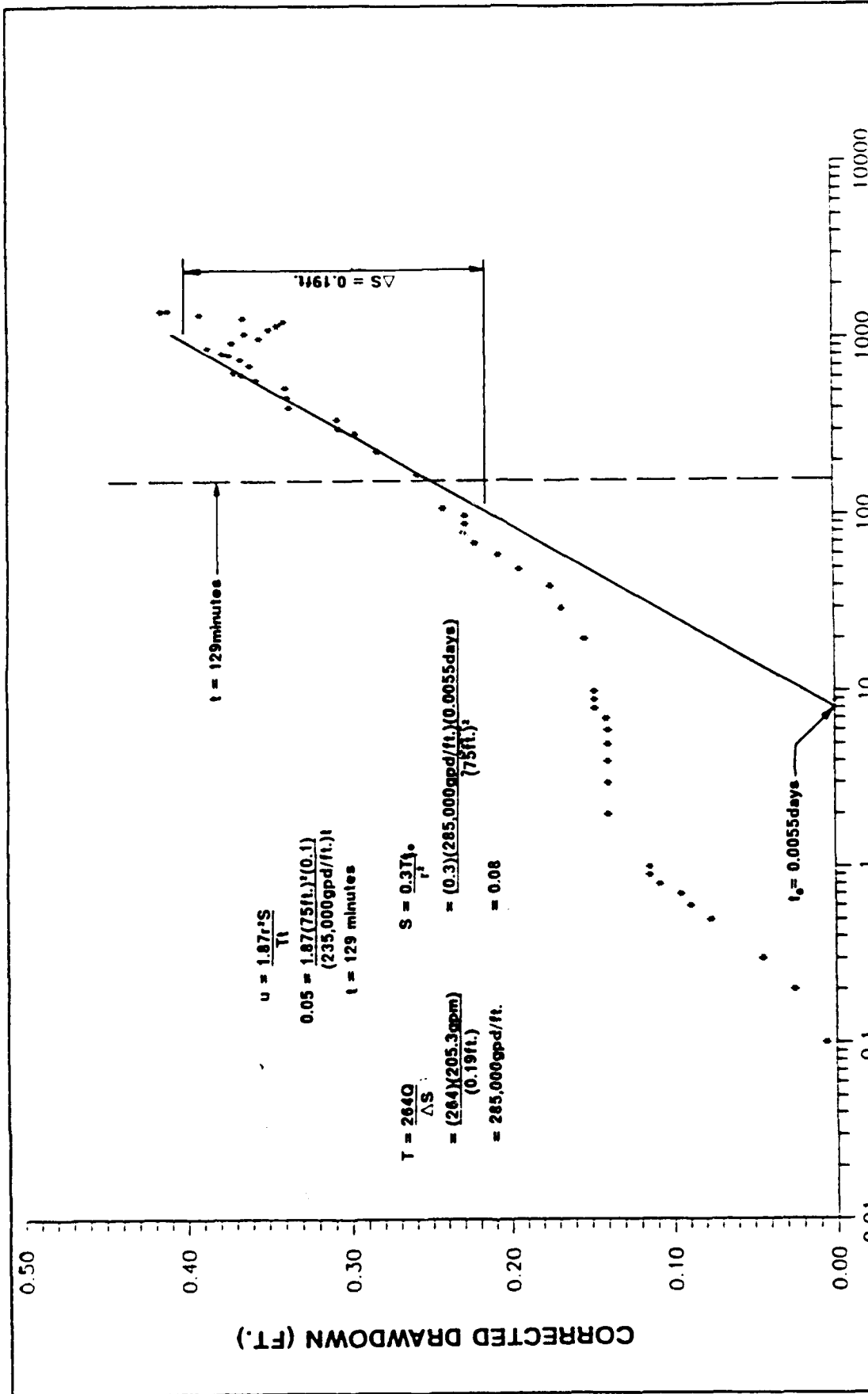
referred to as dimensionless time factor and well function, respectively, where,

$s(r,t)$	=	drawdown at distance r from pumping well at time t ,
t	=	time since pumping started,
Q	=	constant well discharge,
S	=	storativity (for unconfined aquifers), and
T	=	transmissivity.

An example of the Jacob method determination of transmissivity and storativity is illustrated in Figure 6-3. The method is only valid for values of u less than approximately 0.05. Only data from piezometers PBP-91-01B,C,D were analyzed using this method, because their closeness to the pumping well satisfied the u criterion. Jacob method analyses for these three piezometers can be found in Appendix H.

6.2 ANALYSIS OF RECOVERY DATA

The recovery data were analyzed for transmissivity using the time-ratio method outlined by Driscoll (1986). The residual drawdown data are plotted versus the ratio t/t' (t equals time since pumping started, t' equals time since pumping stopped) on semi-logarithmic paper. The ratio t/t' is plotted horizontally on the logarithmic scale and residual drawdown is plotted vertically on the arithmetic scale. It has been shown that the residual drawdown (s') is related to the logarithm of the ratio t/t' as follows (Driscoll, 1986):



TIME AFTER START OF PUMPING (MIN.)

FIGURE 6-3
PIEZOMETER PBP-91-01C
JACOB METHOD ANALYSIS EXAMPLE
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT
A30 Environmental Services, Inc.

NOTE:
IN DETERMINING t_0 VALUES USED FOR S AND T ARE ESTIMATES BASED
ON THE BOULTON DELAYED-YIELD METHOD ANALYSES.

$$s' = \frac{264Q}{T} \log t/t'$$

where:

Q = constant well discharge,
s' = residual drawdown, and
T = transmissivity.

When values of s' are plotted against corresponding values of t/t' on a semilogarithmic graph, the data points (particularly for late times) should fall along a straight line. Figure 6-4 shows an example of this analytical method and the calculation for transmissivity using corrected residual drawdown data from PBP-91-02C. Note that small values of t/t' correspond to time periods late in the recovery phase. Analyses for each piezometer and well can be found in Appendix I.

All recovery plots show that between approximately $t/t' = 1000$ (2 minutes into recovery) and $t/t' = 10$ (150 minutes into recovery) the rate of recovery is essentially zero. This trend is attributed to changing aquifer storativity in the dewatered zone due to entrapped bubbles of air (Driscoll, 1986).

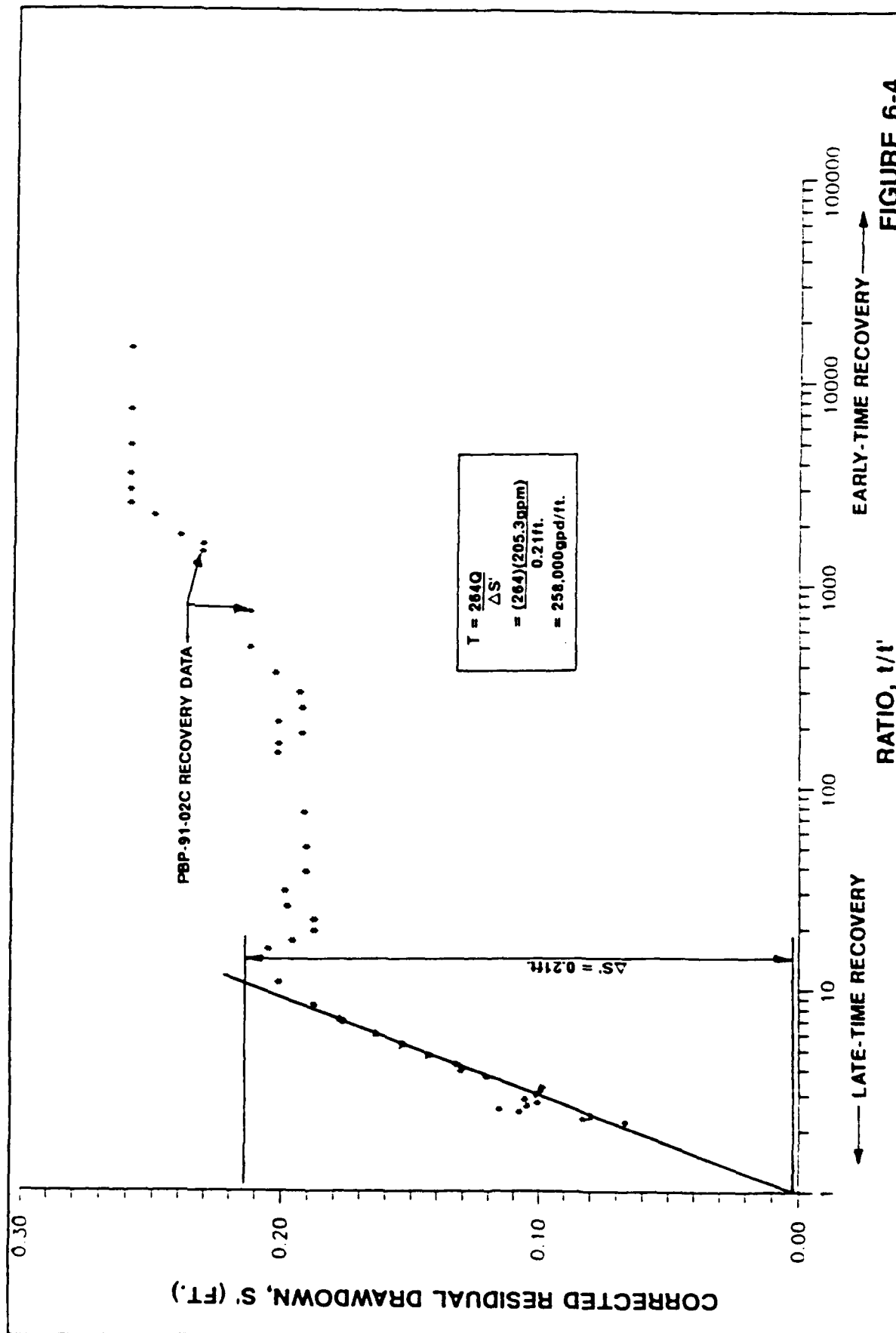


FIGURE 6-4
PIEZOMETER PBP-91-02C
RESIDUAL DRAWDOWN ANALYSIS EXAMPLE
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT
 AEB Environmental Services, Inc.

7.0 INTERPRETATION OF THE AQUIFER TEST ANALYSES

Aquifer tests in unconfined aquifers are commonly run for periods of several days to weeks, but it is evident from the drawdown data that the delayed-yield effect occurred in the very early portion of the test, thus significantly reducing the duration of pumping necessary for calculation of the hydraulic parameters of the aquifer underlying BAAP.

Prior to analysis, data were corrected for a rising water level trend of 0.026 ft/day and changes in barometric pressure. However, during the time period between approximately 900 and 1460 minutes after pumping started at BCW-3, piezometer and well data show a decrease in drawdown (Figure 7-1). The decrease in drawdown is a result of a decrease in flow rate from BCW-3. The effect on the drawdown plots was considered during the Boulton and Jacob methods analyses.

No boundary effects were noticeable in the drawdown data, which is not surprising given evidence from sitewide subsurface explorations data that indicate a relatively uniform overburden thickness and nearly horizontal bedrock surface. In addition, the location and pumping rate of BCW-3 are such that no recharge boundaries from Lake Wisconsin or the Wisconsin River were evidenced in the data plots.

One of the assumptions underlying the Boulton delayed-yield method is that the pumped well penetrates the entire aquifer and thus receives water from the entire thickness of the aquifer by horizontal flow. Within a radius of up to twice the saturated thickness of the aquifer, flowlines created by pumping a partially penetrating pumping well in the aquifer have a component of vertical flow (Kruseman and de Ridder, 1983). Although BCW-3 is a partially-penetrating well, corrections for the effects of partial penetration were not applied in the analysis of the drawdown data because the effects become constant after the early time of the test. These effects are not judged to have a substantive impact on the drawdown data. Furthermore, the early time drawdowns were impacted more by delayed-yield, for which the Boulton analysis does make corrections.

A summary of aquifer hydraulic parameters calculated from the selected analytical methods discussed in Section 6.0 is presented in Table 7-1. The table shows a range in calculated transmissivity from 196,000 to 314,000 gpd/ft. The range for the averages of the three methods used to analyze the data is from 236,000 to 273,000 gpd/ft. In general, the B and D-series wells exhibited higher values of

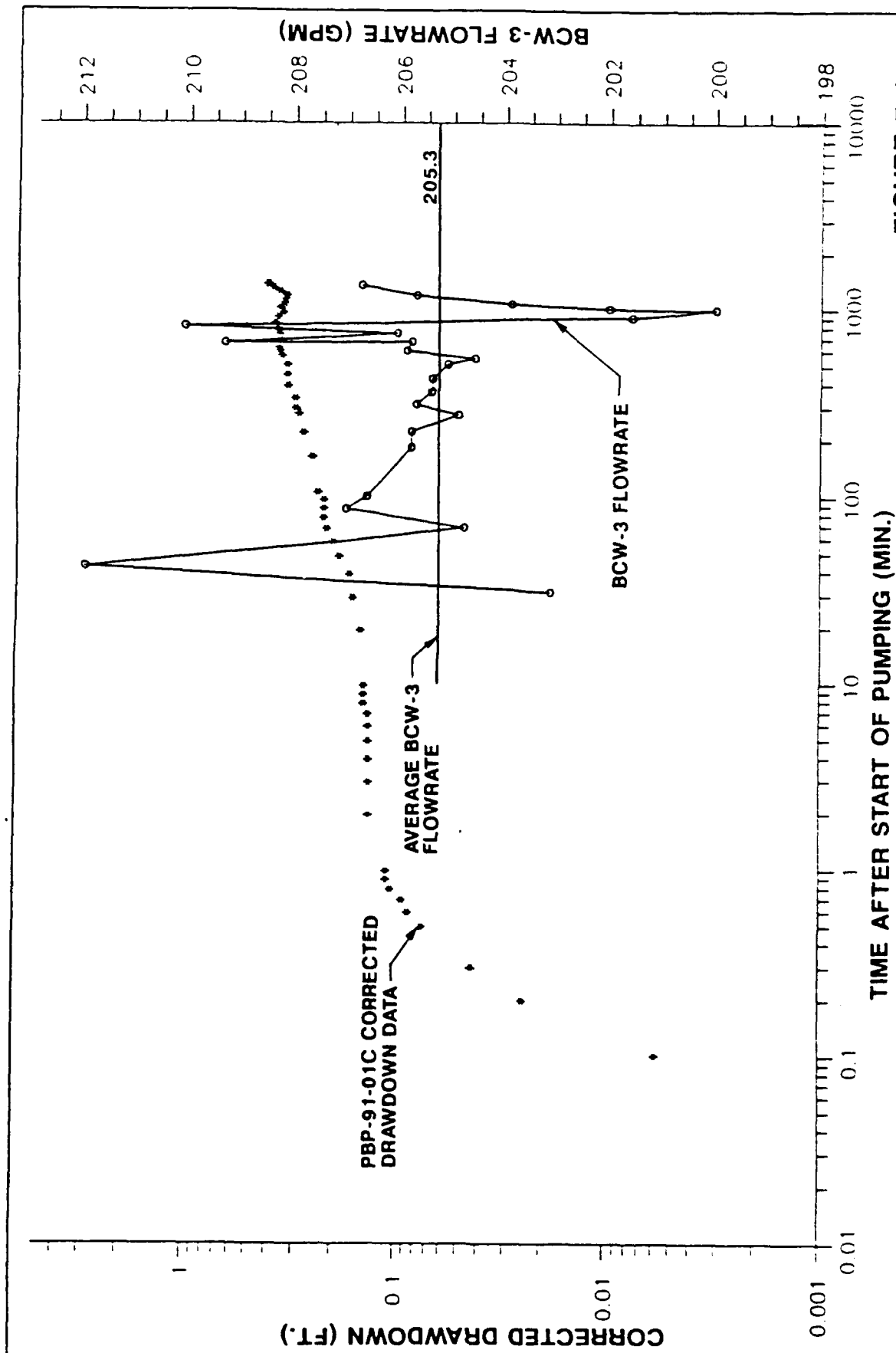


FIGURE 7-1
EXAMPLE OF CORRELATION BETWEEN
FLOWRATE AND DRAWDOWN
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT
 ABB Environmental Services, Inc.

NOTE: DATA POINTS FOR BCW-3 FLOW RATE FROM 567
 AND 819 MINUTES (TABLE 4-1) ARE NOT INCLUDED.

TABLE 7-1
SUMMARY OF CALCULATED AQUIFER HYDRAULIC PARAMETERS
AQUIFER PUMPING TEST
BADGER ARMY AMMUNITION PLANT

Well	Radius from Pumping Well r(ft)	BOULTON DELAYED YIELD DRAWDOWN ANALYSES (1)			JACOB DRAWDOWN ANALYSES (2)		RESIDUAL DRAWDOWN (3, (RECOVERY) ANALYSES
		Transmissivity T(gpd/ft)	Early-Time Storage Coefficient (Se)	Storativity (SI)	Transmissivity T(gpd/ft)	Storativity (S)	
PBP-91-01B	75	-	-	-	-	-	-
PBP-91-01C	75	214,000	2.70E-03	0.16	223,000	0.07	239,000
PBP-91-01D	75	235,000	3.30E-03	0.17	285,000	0.08	236,000
PBP-91-02B	219	261,000	9.11E-04	0.04	311,000	0.11	257,000
PBP-91-02C	219	224,000	1.56E-03	0.07	-	-	252,000
PBP-91-02D	219	314,000	9.71E-05	0.06	-	-	258,000
PBN-91-06C	199	205,000	1.07E-03	0.14	-	-	313,000
PBN-91-06D	197	196,000	9.40E-04	0.13	-	-	240,000
Average:		236,000	1.51E-03	0.11	273,000	0.09	255,000

- NOTES:
- 1) Boulton delayed yield method not applicable for PBP 91-01B data.
 - 2) Jacob drawdown analyses not applicable for the more distant wells PBP-91-02 and PBN-91-06.
 - 3) From Driscoll, 1986.

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transmissivity than the C-series wells. This implies that the horizontal hydraulic conductivity is greater for these zones, which is supported by boring log data that indicates the presence of gravel layers in the B and D zones (approximate depth interval).

The ratio of vertical to horizontal hydraulic conductivity is assumed to be very close to 1.0. Supporting evidence for this assumption is the lack of significant stratification in the formation and the very short duration of the delayed-yield effect.

Storativity values from the two analytical methods used for analysis of drawdown data range from 0.04 to 0.14, with a range between the averages of the two methods of 0.09 to 0.11 (Table 7-1). These values fall within the range of 0.01 to 0.3 for unconfined aquifers given by Driscoll (1986), but are slightly lower than expected for the BAAP sand and gravel aquifer.

Assuming unconfined conditions in the aquifer, the theoretical specific capacity of pumping well BCW-3 may be computed using the following equation:

$$\frac{Q}{s} = \frac{T}{1500} \quad (\text{Walton, 1987})$$

where:

Q	=	the pumping rate in gpm
s	=	the maximum drawdown in the pumped well in feet
T	=	the aquifer transmissivity in gpd/ft

Based on this equation the theoretical specific capacity is:

$$\begin{aligned}\frac{Q}{s} &= \frac{255,000 \text{ gpd/ft}}{1500} \\ &= 170 \text{ gpm/ft of drawdown}\end{aligned}$$

The actual specific capacity of well BCW-3 from field measurements of maximum drawdown during the 24.5-hour pumping test is:

$$\frac{Q}{s} = \frac{205.3 \text{ gpm}}{10.5 \text{ ft}} = 19.6 \text{ gpm/ft of drawdown}$$

The well efficiency can be computed by dividing the actual specific capacity by the theoretical specific capacity: the result is 12 percent. This low efficiency is probably due to several factors, that may include improper well installation and development, and biologic plugging of the screen. A large amount of iron bacteria was evidenced on the drop pipe when the original 100 gpm pump was pulled from BCW-3.

Although the calculated well efficiency for BCW-3 is low, it has no effect on the analysis of the data and the hydraulic aquifer parameter estimates obtained from the analyses since all parameter estimates were based on drawdown measurements in the nearby monitoring wells and piezometers.

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WATER LEVEL DATA FROM MANUAL MEASUREMENTS

Casing Elev: 858.39

MEASURED WATER LEVELS

WELL #: PBN-85-04A

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL meter</u>	
2/5/91	1450	93.90	Solinst	#04912
2/7/91	1545	93.85	"	"
2/8/91	1030	93.82	"	"
2/9/91	1150	93.82	"	"
2/10/91	08:55	93.79	"	"
2/11/91	08:59	93.85	<u>Drawdown</u>	
2/11/91	15:22	93.81	"	"
"	16:59	93.85	+0.04	"
"	18:51	93.87	+0.06	"
"	20:11	93.88	+0.07	"
"	23:06	93.88	+0.07	"
2/12/91	01:12	93.88	+0.07	"
"	05:09	93.87	+0.06	"
2/12/91	16:14	93.93	+0.12	"
2/13/91	09:14	93.88	+0.07	"

Casing Elev. = 859.23

MEASURED WATER LEVELS

WELL # : PBN-89-01

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL mpt</u>
12/5/91	1450	93.15	Solinst / #04912
12/7/91	1545	93.09	" "
12/8/91	1030	93.05	" "
12/9/91	1150	93.05	" "
12/10/91	09:01	93.03	" "
12/11/91	09:01	93.08	" "
12/11/91	19:24	93.00	<u>Drawdown</u> " "
"	17:08	93.09	+0.04 " "
" "	18:54	93.07	+0.02 " "
" "	20:14	93.11	+0.06 " "
"	23:10	93.12	+0.07 " "
12/12/91	01:15	93.11	+0.06 " "
"	05:16	93.10	+0.05 " "
12/12/91	16:16	93.16	+0.11
12/13/91	05:20	93.12	+0.07

Casing Elev. = 859.70

MEASURED WATER LEVELS

WELL # : PBN-89-C4C

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL meter</u>
2/5/91	1450	94.08	Solinst/#04912
2/7/91	1545	94.05	" "
2/8/91	1030	93.98	" "
2/9/91	1150	93.98	" "
2/10/91	08:57	93.96	" "
2/11/91	09:04	94.00	" "
2/11/91	15:23	93.98	Drawdown " "
"	#1705 JAB	94.02	+0.04
"	18:58	94.01	+0.03 " "
"	20:16	94.05	+0.07 " "
"	23:12	94.06	+0.08 " "
2/12/91	01:18	94.06	+0.08 " "
"	05:13	94.03	+0.05 " "
2/12/91	16:18	94.10	
2/13/91	09:25	94.05	

Casing Elev. = 863.23

MEASURED WATER LEVELS

WELL # : PBM-E5-

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL mo.</u>
12/8/91	1045	96.92	Solinst / #0491
12/9/91	1200	96.93	" "
12/10/91	09:13	96.91	" "
12/11/91	09:08	96.96	" "
12/11/91	19:03	96.91	" "
12/11/91	23:18	96.91	" "
12/12/91	16:22	96.92	" "
12/13/91	09:31	96.97	" "

Casing Elev. = 846.78

MEASURED WATER LEVELS

WELL # : PBM-85-06

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL meter</u>
12/5/91	15:15	82.95	Solinst / #04912
12/8/91	11:10	82.84	" "
12/9/91	11:25	82.85	" "
12/10/91	08:26	82.83	" "
12/11/91	08:34	82.87	<u>Drawdown</u> " "
12/11/91	15:19	82.85	-0.02 " "
12/11/91	16:09	82.85	-0.02 " "
12/11/91	18:26	82.91	+0.04 " "
12/11/91	20:01	82.93	+0.06 " "
12/11/91	23:00	82.94	+0.07 " "
12/12/91	00:01	82.94	+0.07 " "
12/12/91	02:22	82.94	+0.07 " "
"	05:27	82.94 ^{APD}	+0.05 " "
12/12/91	16:10	83.02	
12/13/91	09:00	82.90	

Casing Elev. = 849.35

MEASURED WATER LEVELS

WELL #: PBM-89

<u>Date</u>	<u>Time</u>	<u>Depth - Water (ft)</u>	<u>Make/Serial # of WL met</u>
12/8/91	1040	83.28	Solinst/#04912
12/9/91	1210	83.27	" "
12/10/91	09:07	83.27	" "
12/11/91	09:14	83.29	" "
12/11/91	19:08	83.28	" "
12/11/91	23:25	83.28	" "
12/12/91	16:27	83.30	
12/13/91	09:36	83.31	

Casing Elev. : 855.66

MEASURED WATER LEVELS

WELL # : PBN-89-12A

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL meter</u>
12/8/91	1100	91.40	Solinst / #04912
12/9/91	1115	91.43	" "
12/10/91	0842	91.38	" "
12/11/91	08:42	91.43	" "
12/11/91	18:33	91.40	" "
12/11/91	23:47	91.38	" "
12/12/91	16:47	91.42	" "
12/13/91	08:49	91.44	" "

Casing Elev.: 856.04

MEASURED WATER LEVELS

WELL #: PBN-89-1

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL m</u>
12/8/91	1100	91.92'	Solinst/# 04912
12/9/91	1115	91.95	" "
12/10/91	0839	91.91'	" "
12/11/91	08:45	91.95'	" "
12/11/91	18:37	91.91	" "
12/11/91	23:51	91.91	" "
12/12/91	16:48	91.94	" "
12/13/91	08:52	91.95	" "

~~93~~ PMA

MEASURED WATER LEVELS

WELL # : PBN-91-12C

Date	Time	Depth to Water (ft)	Make/Serial # of WL meter
12/8/91	1100	90.22	Solinst /# 04912
12/9/91	1115	90.26	" "
12/10/91	08:45	90.21	" "
12/11/91	09:49	90.25	" "
12/11/91	18:40	90.24	" "
12/11/91	23:54	90.22	" "
12/12/91	16:50	90.25	" "
12/13/91	08:54	90.25	" "

MEASURED WATER LEVELS

WELL # : PBN-91-1

<u>Date</u>	<u>Time</u>	<u>Depth to Water (ft)</u>	<u>Make/Serial # of WL mtr</u>
12/8/91	1100	89.15	Solinst / #04912
12/9/91	1115	89.18	" "
12/10/91	08:48	89.15	" "
12/11/91	08:52	89.19	" "
12/11/91	18:42	89.15	" "
12/11/91	23:57	89.15	" "
12/12/91	16:52	89.17	" "
12/13/91	08:56	89.18	

APPENDIX B

BORING LOGS AND PIEZOMETER/WELL CONSTRUCTION DIAGRAMS

FIELD BORING LOG				Boring No. <u>PBP-91-01</u> B, C, D	
Project No. <u>06553-03</u>		Project Name <u>RANGER AAP</u>		Page <u>1</u> of <u>4</u>	
Contractor <u>LAYNE</u>		Driller <u>G. BRAWLIZ</u>		Date started <u>10-12-91</u> completed <u>10-13-91</u>	
Method <u>DIAL WALL</u>		Casing Size <u>9" O.D.</u>		HNH <u>11.7110.2</u>	
Ground El.		Soil Drilled <u>253.5'</u>		Protection Level <u>></u>	
Logged by <u>RRR</u>		Checked by <u>DRP</u>		Date <u>10/16/91</u>	
Total Depth <u>253.5'</u>					

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring	
						HNH	LEL
	0-10'			BROWN <u>SILT</u> , SOME CLAY, TR. F SAND, PUD. (ML)	DID NOT HAVE FUNCTIONING TIP OR HNH	JAR	ATR
	10-20'			LT BROWN <u>SAND</u> , PUD, F, LITTLE M SAND, TR SILT, TR COBBLES	(SP)		
	20-30'			LT BROWN <u>SAND</u> , F-M, PUD, LITTLE C SAND, TR F GRAV., TR SILT, TR COBBLES	(SP)		
	30-40'			LT BROWN <u>SAND</u> , PUD, F, SOME M SAND, LITTLE SILT, LITTLE C SAND, TR F GRAVEL.	(SP)		
	40-50'			40-43': LT BROWN <u>SAND</u> PUD, M, SOME F SAND, LITTLE C SAND, TR GRAV. TR SILT.	(SP) ✓ CHANGE		
	50-60'			43-50: LT BROWN <u>SAND</u> GRAVEL, WGS, F GRAVEL, LITTLE C GRAVEL, M-C SAND, LITTLE F SAND.	(SW)		
				50-53: SAME AS ABOVE			
				53-55: BROWN GRAVELY <u>SAND</u> , WGS, C, GRAVEL, F	(SW)		
				55-60: LT BROWN <u>SAND</u> , WGS, C, SOME F GRAVEL, LITTLE M SAND, TR F SAND, TR COBBLES	(SW)		

FIELD BORING LOG				Boring No. PSP-91-4	
Project No. 06853-03		Project Name BANGER AAP		Page 2 of 4	
Contractor LAYNE		Driller RODRIGUEZ		Date started 10-12-91 completed 10-13-91	
Method DUAL WALL		Casing Size 9" O.D.		HNU 11.7/10.2	
Ground El		Soil Drilled 253.5		Total Depth 253.5'	
Logged by RRL		Checked by DRP		Date 10/16/91	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring HNU I LEL
	60-70'			LT BROWN GRAVELY SAND, WLD, C, F GRAVEL, LITTLE M SAND, TR C SAND, TR COBBLES.	(SW)	JAR AT 0
	70-80'			70-73' SAME AS ABOVE 73-80 LT BROWN SAND, WLD, C, LITTLE M SAND, LITTLE F GRAVEL, LITTLE F SAND. INTERBEDS OF LARGE COBBLES (4"-6" IN DIAM)	(SW) ✓ CHANGE	0
	80-90'			80-83': SAME AS ABOVE 83-90': LT BROWN SAND, PUD, F, SOME SILT, TR M SAND, TR F GRAVEL	(SP)	0
	90-100'			SAME AS ABOVE	(EP) 92.8	0
	100-110			SAME AS ABOVE	(SP)	0
	110-120			LT BROWN SAND, PUD, M, SOME F SAND, TR C SAND, TR F GRAVEL, TR SILT	(SP)	0
	120-130'			120-129' LT BROWN SAND, WLD, M, SOME C, LITTLE F SAND, TR F GRAVEL. 129-130: LT BROWN SAND, WLD, M, SOME C, LITTLE F SAND, LITTLE F GRAV. TR GRAVEL COBBLES	(SW) (SW)	0
	130-140			130-138 SAME AS 129-130	10-12-91 10-13-91	

FIELD BORING LOG				Boring No. PBP-91-01	
Project NO. 06853-01		Project Name BAWLER AAP		Page 3 of 4	
Contractor LAYNE		Driller G. ROBRIDGE		Date started 10-12-91 completed 10-13-91	
Method DUAL WALL		Casing Size 9" o.d.	HNU 11.7/10.2	Protection Level	
Ground El.		Soil Drilled 253.5'	2' below ground 95'	Total Depth 253.5'	
Logged by TRR		Checked by DRP		Date 10/16/91	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring	
						HNU	LEL
	138-140			138-140: LT BR SAND, PUD, M-C, LITTLE F, TR F GRAV, TR SILT	(SP)	JAR	ATR
	140-150			140-146: LT BROWN SAND, PUD, F, SOME M, TR C, TR SILT	(SP)	0	0
				146-150: LT BROWN SAND, F, WLD, SOME M, LITTLE C, TR F GRAVEL, TR SILT	(SW)	0	0
	150-160			LT BROWN SAND, WLD, M, SOME C, LITTLE F GRAV, LITTLE F SAND, TR SILT	(SW)	0	0
	160-170			SAME AS ABOVE	(SW)	0	0
	170-180			SAME AS ABOVE	(SW)	0	0
	180-190			180-185: SAME AS ABOVE	(SW)	0	0
				185-190: LT BROWN SAND, WLD, M-C, SOME F GRAVEL, TR C GRAVEL, TR COBBLES, TR SILT, TR F SAND	(SW)	0	0
	190-200			190-193: SAME AS ABOVE	(SW)	0	0
				193-198: LT BROWN GRAVELY SAND, WLD, SAND, M-C, GRAVEL, C,			
				198-200: LT BROWN SANDY GRAVEL, WLD, F-M, SAND, M-C, TR COBBLES, TR F SAND, TR SILT	(GW)		

NOTE: IT IS A DIFFICULT DISTINCTION BTWN PUD AND WLD IN THESE SEDIMENTS

FIELD BORING LOG				Boring No. P3P-91	
Project No. 06253-03		Project Name BADGER AAP		Page 4 of 4	
Contractor LAYNE		Driller G. RODRIGUEZ		Date started 10-12-91 completed 10-13-91	
Method DUAL WALL		Casing Size 9" O.D.		HNU 11.7/10.2	
Ground El.		Soil Drilled 253.5		Protection Level 1	
Logged by JCR		Checked by DRP		Date 10/16/91	
Total Depth 253.5'					

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring HNU LEL
	200-210			200-205: LT BROWN GRAVELLY SAND, WGD, M-C, LITTLE F SAND, TR SILT GRAVEL F-M, TR CORBBLES	(SW)	JAR ATR
	210-220			210-216: LT BROWN GRAVELLY SAND, WGD, SAME AS ABOVE	(SW)	
				216-220: LT BROWN SANDY GRAVEL, WGD, F-M, SOME C GRAVEL, SAND: M-C, TR CORBBLES, TR F SAND, TR SILT.	(SW)	
	220-230			220-223 LT BROWN GRAVELLY SAND, WGD, M-C, LITTLE F SAND, TR SILT, TR CORBBLES, GRAVEL F-M.	(SW) ✓ CHANGE	
				223-230: LT BROWN, PWD SAND, M, LITTLE C, LITTLE F, TR F GRAVEL TR SILT	(SP)	
	230-240			SAME AS ABOVE	(SP)	
	240-250			240-247: LT BROWN SAND, PWD, M, LITTLE C, TR F GRAVEL	(SP)	
				247-250, LT BROWN SANDY GRAVEL, WGD, F-M, SAND: C-M, TR FINE, LITTLE CORBBLES	(SW) ✓ CHANGE	
				B.O.B. - 253.5'		

FIELD BORING LOG				Boring No. PB2-91-03 B, C, D	
Project NO. 6853-03		Project Name BADGER AAP		Page 1 of 4	
Contractor LAYNE		Driller G RODRIGUEZ		Date started 10-13-91 completed 10-14-91	
Method Dual Wall		Casing Size 9" O.D.		HNH 11.7/10.2	
Ground El		Soil Drilled 253.5'		Protection Level D	
		± below ground 95'		Total Depth 253.5'	
Logged by TRL		Checked by DRP		Date 10/16/91	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring	
						HNH	LEL
	0-10'			BROWN CLAYEY SILT, PWD LITTLE F SAND	(ML) DONT HAVE FUNCTIONING HNH	JAR	ATF
	10-20'			LT BROWN SAND, PWD, F, LITTLE SILT, LITTLE M, TR COARSE, TR F GRAVEL, GRADUALLY CHANGING TO LT BROWN SAND, PWD, M, LITTLE F, TR C, TR GRAVEL COARSE GRAVEL - COBBLE ZONE, WGD, AT 12-13'	(SP)		
	20-30'			20-24': LT BROWN SAND, WGD, M, PWD, AS ABOVE 24-30': LT BROWN SAND, WGD, M, LITTLE C, LITTLE F SAND, TR F GRAVEL, TR SILT	(RA) (SP) ✓ CHANGE (SW)		
	30-40'			LT BROWN SAND, WGD, M, SOME C, LITTLE F, TR F GRAVEL, TR C GRAVEL, TR SILT	(SW)		
	40-50'			40-46': LT BROWN SAND, WGD, M-C, SOME F GRAVEL, LITTLE F SAND, TR SILT 46-50': LT BROWN GRAVELLY SAND, WGD, C, SOME M, GRAVEL F, TR C, TR COBBLES.	(SW)		
	50-60'			50-55: BROWN SANDY GRAVEL, WGD, F, LITTLE C, SAND: C, LITTLE M, TR F, TR SILT 55-60: BROWN SANDY GRAVEL, WGD, C, SOME F, SAND: C SOME M, TR F.	(SW)		

FIELD BORING LOG				Boring No. <u>PBP-91</u> <u>B.C.1</u>	
Project No <u>0685303</u>		Project Name <u>BADGER AAP</u>		Page <u>2</u> of <u>4</u>	
Contractor <u>LAYNE</u>		Driller <u>G RODRIGUEZ</u>		Date started <u>10-14-91</u> completed <u>10-15-91</u>	
Method <u>DUAL WALL</u>	Casing Size <u>9" O.D.</u>	HAJ <u>11.7/10.2</u>	Protection Level <u>D</u>		
Ground El	Soil Drilled <u>253.5'</u>	<u>2</u> below ground <u>95'</u>	Total Depth <u>253.5'</u>		
Logged by <u>KKR</u>		Checked by <u>DRP</u>		Date <u>10/16/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring		
						HNU	TEL	
	60-70			60-67': LT BROWN SAND WLD, C, SOME M, SOME F GRAVEL, TR C GRAVEL 67-70': LT BROWN SAND WLD TO PUD, M-C, TR F SAND, TR SILT, TR F GRAVEL, TR COBBLES.	(SW) TRIP OUT TO CHANGE FROM A CROWD-OUT TO A CROWD- IN BIT.	JAR	ATF	C
	70-80			LT BROWN SAND, WLD, C, SOME M SAND, LITTLE F SAND, LITTLE F GRAVEL, TR COBBLES	(SW)			O
	80-90'			(PB) LT BROWN SANDS & PUD, M, LITTLE C, LITTLE F, TR F GRAVEL, TR COBBLES, TR SILT	(SP)			C
	90-100'			LT BROWN SAND, PUD, F-M, LITTLE SILT, TR C SAND.	(SP)			O
	100-110			SAME AS 90-100'	(SP)			O
	110-120			LT BROWN SAND, PUD, M, LITTLE C, LITTLE F, TR F GRAVEL.	(SP) STARTED USING WATER DOWN CASING AT THIS POINT.			O
	120-130			120-122: SAME AS 110-120' 122-127: LT BROWN SAND WLD, M, SOME C, LITTLE F, LITTLE F GRAVEL, TR COBBLES. 127-128': COBBLE-BOUNDED ZONE. 128-130': LT BROWN GRAVELY SAND, WLD, M-C, LITTLE F, GRAVEL: F-M, LITTLE COBBLES	(SW) ✓ CHANGE			

FIELD BORING LOG				Boring No. <u>PBP-91-02</u> <u>B,C,D</u>	
Project No <u>0685303</u>		Project Name <u>SANGER AAP</u>		Page <u>3</u> of <u>4</u>	
Contractor <u>LAYNE</u>		Driller <u>G. RODRIGUEZ</u>		Date started <u>10-14-91</u> completed <u>10-15-91</u>	
Method <u>DUAL WALL</u>	Casing Size <u>9" O.D.</u>	MNU <u>11.7/10.2</u>	Protection Level <u>D</u>		
Ground El.	Soil Drilled <u>253.5</u>	<u>7</u> below ground <u>95'</u>	Total Depth <u>253.5</u>		
Logged by <u>DRP</u>		Checked by <u>DRP</u>		Date <u>10/16/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring
						MNU LEL
	130-140			130-136': LT BROWN GRAVELLY SAND AS ABOVE	(SW)	0
	140-150			136-140': LT BROWN SAND, WGD, M-C, SOME F GRAVEL, LITTLE C GRAVEL, TR F SAND, TR SILT TR COBBLES	(SW)	0
	150-160		150-156	140-150': LT BROWN SAND, WGD, M, SOME C, LITTLE F, LITTLE F GRAVEL, TR C GRAVEL, TR SILT.	(SW)	0
				150-156: SANDY GRAVEL, WGD, BROWN, F, SOME C GRAVEL, SAND: M-C, TR FINE, TR SILT	(SW)	0
	160-170			156-160': LT BROWN GRAVELLY SAND, WGD, M-C, LITTLE F, GRAVEL: F, TR COBBLES	(SW)	
	170-180			160-170: LT BROWN SAND, PUD, M, SOME F, TR C, TR SILT	CHANGE (SP)	0
	180-190			SAME AS 160-170	(SP)	0
				180-184': LT BROWN SAND, PUD, M, SOME C, TR F GRAVEL TR F SAND.	(SP)	
				184-190': LT BROWN SAND, WGD, M-C, LITTLE F GRAVEL TR F SAND, TR SILT.	CHANGE (SW)	
	190-200			190-197': SAND, WGD AS ABOVE.	PROBLEM W/ HEAVING SANDS AT THIS POINT (SW)	
				197-200': LT BROWN SAND, WGD, C, SOME M, SOME F GRAVEL, TR C GRAVEL, TR COBBLES, TR F SAND, TR SILT	(SW)	
	200-210			SAME AS 197-200	(SW)	

FIELD BORING LOG				Boring No. <u>PSP-91</u> <u>B.C.12</u>	
Project No <u>06853-03</u>		Project Name <u>BADGER AAP</u>		Page <u>4</u> of <u>4</u>	
Contractor <u>LAYNE</u>		Driller <u>G. BORRER</u>		Date started <u>10-14-91</u> completed <u>10-15-91</u>	
Method <u>DUALWALL</u>		Casing Size <u>9" O.D.</u>		HNU <u>11.7/10.2</u> Protection Level <u>D</u>	
Ground El		Soil Drilled <u>253.3</u>		<u>2</u> below ground <u>95</u> Total Depth <u>253.5</u>	
Logged by <u>RRC</u>		Checked by <u>DRP</u>		Date <u>10/16/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring HNU LE
	210-220			210-215: LT BROWN GRAVELLY SAND, WGD, C. SOME M, LITTLE F, TR SILT, LITTLE COBBLES GRAVELLY F, LITTLE C. 215-220: LT BROWN SAND WGD, C, SOME M, SOME F GRAVEL, LITTLE F SAND TR SILT, TR COBBLES.	(SW)	JAR ATR
	220-230			SAME AS 215-220	(SW) ✓ CHANGE	
	230-240			LT BROWN SAND, PGD, M, SOME C, LITTLE F SAND, TR F GRAVEL, TR SILT.	(SP)	
	240-250			240-248: SAME AS 230-240. 248-253: COBBLE-GRAVEL ZONE.	(SP) ✓ CHANGE (GW)	
				TBOB = 253.5		

FIELD BORING LOG				Boring No. P3N-91-06C	
Project: NO06853-03		Project Name: BADLER ASP		Page 1 of 2	
Contractor: LAYNE		Driller: G. RODRIGUEZ		Date started: 10-16-91 completed: 10-22-91	
Method: DUAL WALL		Casing Size: 9" O.D.		HNU: 11.7/10.2 Protection Level: D	
Ground El:		Soil Drilled: 220'		2' below ground 90' Total Depth: 220'	
Logged by: RRR		Checked by: DRP		Date: 10/24/91	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring	
						HNU	CEL
	0-10'			BROWN CLAYEY SILT, PGD, TR F SAND, COHESIVE	(MD)	JAN 1991	0
	10-20'			LT BROWN SAND, WGD, M, SOME F, SOME C, LITTLE F GRAVEL, TR SILT	(SW)	0	0
	20-30'			INTERBEDDED LT BROWN SAND, WGD, C, SOME M, LITTLE F GRAVEL, TR SILT, TR C GRAVEL, TR F SAND, AND, LT BROWN SAND, PGD M, LITTLE C, LITTLE F, TR SILT.	(SW) (SP)	0	0
	30-40'			SIMILAR TO 30-40'	(SW)/(SP)	0	0
	40-50'	40-44		LT BROWN SAND, WGD, C, SOME F GRAVEL, LITTLE C GRAVEL, LITTLE M SAND, TR F, TR SILT.	(SW)	0	0
		44-50		BROWN GRAVELLY SAND, WGD, C, SOME M, TR F, TR SILT GRAVEL: F, LITTLE C, TR COBBLES			
	50-60'	50-54 54-58 58-60		SAME AS 44-50' LT BROWN SAND, WGD, C, SOME F GRAVEL, LITTLE M SAND, TR C GRAVEL, TR F SAND, TR SILT GRAVELLY SAND AS 54-58'	(SW)	0	0
	60-70'			INTERBEDS OF LT BROWN SAND, WGD, C, SOME M, SOME F GRAVEL, LITTLE C GRAVEL AND; COBBLE ZONES	(SW)	0	0

FIELD BORING LOG				Boring No. P3N-9	
Project: NOUG853-03		Project Name: TBAOUEL AAP		Page 2 of 2	
Contractor: LAYNE		Driller: G. RODRIGUEZ		Date started: 10-16-91 completed: 10-22-91	
Method: DUAL WALL		Casing Size: 9" O.D.		HNU: 11.7/102	
Ground El.		Soil Drilled: 220'		Protection Level: 2	
Logged by: TRR		Checked by: DRP		Date: 10/24/91	

Sample No	Depth in Feet	Blows per 6 inches	Pen REC	Description	Comments on Advance of Boring	Monitoring
	70-80			LT BROWN SAND, WGD, C, SOME M, LITTLE F GRAVEL, TR F SAND, TR SILT TR COBBLES	(SW)	0
	80-90	81-88 88-90		SAME AS 70-80 LT BROWN SAND, WGD, M, LITTLE C, LITTLE F, TR SILT	(SW) ✓ (SP) ▼ 90'	0
	90-100			SAME AS 88-90	(SP)	0
	100-110			" " "	(SP)	0
	110-120			LT BR SAND, WGD, M, SOME C, SOME F, TR F GRAVEL TR SILT TR COBBLES	(SW) ✓	0
	120-130			BROWN SAND, WGD, C, SOME F GRAVEL, SOME M SAND, LITTLE C GRAVEL, TR COBBLES TR C SAND	(SW)	0
	130-140			SAME AS 120-130	(SW)	0
	140-150			BROWN GRAVELY SAND, WGD, C, SOME M, LITTLE F, GRAVEL, F, LITTLE TR COBBLES, TR SILT	(SW)	0
	150-160			LT BROWN SAND, WGD, C, SOME M, LITTLE F, LITTLE F GRAVEL, TR SILT	(SW) WATER BECOMES DARK BROWN	0
	160-170			SAME AS 150-160	(SW)	0
	170-180	170-176 176-180		SAME AS ABOVE LT BROWN SAND WGD, C, SOME F GRAVEL, SOME M SAND, LITTLE F SAND, LITTLE C GRAVEL, TR COBBLES, TR SILT	(SW)	0
	180-190			SAME AS 176-180	(SW)	0
	190-200			SAME AS ABOVE	(SW)	0
	200-210			BROWN GRAVELY SAND, WGD, C, SOME M, LITTLE F, TR COBBLES, GRAVEL: F, LITTLE C	(SW)	0
	210-220			NO SAMPLE		0

BCE = 220

FIELD BORING LOG				Boring No. <u>PBW-91-06</u>	
Project No. <u>06553-03</u>		Project Name <u>BANDER AAP</u>		Page <u>1</u> of <u>3</u>	
Contractor <u>LAYNE</u>		Driller <u>G. R. R. W. S. E.</u>		Date started <u>10-12-91</u> completed <u>10-12-91</u>	
Method <u>DUAL WALL</u>		Casing Size <u>9" OD</u>		HNU <u>11.7/10.2</u> Protection Level <u>D</u>	
Ground El. <u></u>		Soil Drilled <u>251'</u>		<u>7'</u> below ground <u>83'</u> Total Depth <u>251'</u>	
Logged by <u>RRR</u>		Checked by <u>DRP</u>		Date <u>10/14/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring		
						HNU	LEL	
S-1	0-10'			BROWN CLAYEY SILT, WGD, SOFT, MODERATE PLASTIC	(ML)	0	0	0
S-2	10-20'			10-12': SAME AS S-1 12-20': LT BROWN SAND PGD, F, LITTLE M SAND, TR COARSE SAND, TR SILT, INTERBEDS OF SILT LENSES	(SP)	0	0	0
S-3	20-30'			LT BROWN SAND, PGD, F, LITTLE M SAND, TR COARSE, TR F GRAVEL, TR SILT	(SP)	0	0	0
S-4	30-40'			SAME AS S-3	(SP)	0	0	0
S-5	40-50'			LT BROWN GRAVELY SAND WGD, M-C SAND, F-M GRAVEL, TR FINE SAND TR SILT.	(SW)	0	0	0
S-6	50-60'			LT BROWN SAND, WGD, M-C, SOME FINE GRAVEL, TR F SAND	(SW)	0	0	0
S-7	60-70'			SAME AS S-6	(SW)	0	0	0
S-8	70-80'			70-73': 73-76': SAME AS S-6 76-80': COBBLE + BOULDER ZONE, 2"-6" DIAMETER, SOME FINE SAND	(SP)	0	0	0
S-9	80-90'			LT BROWN SAND, PGD, F, LITTLE M, TR COARSE SAND, TR F-M GRAVEL, TR SILT	(SP) <u>83'</u>	0	0	0

FIELD BORING LOG				Boring No. P3N-91	
Project NO 06853-03		Project Name <u>BADGER AAP</u>		Page <u>2</u> of <u>3</u>	
Contractor <u>LAYNE</u>		Driller <u>G. ROBRIDGE</u>		Date started <u>10-11-91</u> completed <u>10-11-91</u>	
Method <u>DUAL WALL</u>		Casing Size <u>9" O.D.</u>		HNU <u>11.7102</u> Protection Level <u>D</u>	
Ground El <u></u>		Soil Drilled <u>251'</u>		<u>2'</u> below ground <u>83'</u> Total Depth <u>251'</u>	
Logged by <u>TRC</u>		Checked by <u>DRP</u>		Date <u>10/14/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring		
						HNU	LEL	
S-10	90-100'			SAME AS S-9	(SP)			
S-11	100-110'			LT BROWN SAND, PGD, F, LITTLE M, LITTLE SILT	(SP)	0	0	0
S-12	110-120			110-117: SAME AS S-9 117-120: LT BROWN SAND PGD, F-M, TR COARSE, TR F-M GRAVEL, TR COBBLES.	(SP)	0	0	0
S-13	120-130			120-122: SAME AS S-12 122-130: LT BROWN SANDY GRAVEL, WGD, F-M GRAVEL, M-C SAND, TRACE SILT LITTLE COBBLES.	(GW)	0	0	0
S-14	130-140			130-137: LT BROWN SAND, PGD, F-M, LITTLE SILT.	(SP)	0	0	0
S-15				137-140: LT BROWN SAND PGD, F-M, LITTLE COARSE, LITTLE F GRAVEL, TR COBBLES, TR SILT	(SP)			
S-15	140-150			LT BROWN SAND, WGD, M, SOME FINE, LITTLE C, LITTLE F GRAVEL, TR COBBLES, TR SILT.	(SW)	0	0	0
S-16	150-160			LT BROWN SAND, PGD, F-M, SOME C, TR F GRAVEL, TR SILT.	(SP)	0	0	0
S-17	160-170			SAME AS S-16	(SP) 170' SANDS HEAVING	0	0	0
S-18	170-180			LT BROWN SAND, WGD, M-C, SOME F SAND, LITTLE F GRAVEL, TR SILT.	(SW) CHANGE TO CROWN-IN BIT			

FIELD BORING LOG				Boring No. <u>PDN-91-065</u>	
Project No <u>06853-03</u>		Project Name <u>ISAUGER AAP</u>		Page <u>3</u> of <u>3</u>	
Contractor <u>LAYNE</u>		Driller <u>G RODRIGUEZ</u>		Date started <u>10-11-91</u> completed <u>10-11-91</u>	
Method <u>DUAL WALL</u>		Casing Size <u>9" O.D.</u>		HNU <u>11.7/10.2</u> Protection Level <u>D</u>	
Ground El		Soil Drilled <u>25'</u>		<u>2</u> below ground <u>83'</u> Total Depth <u>25'</u>	
Logged by <u>TERR</u>		Checked by <u>DAP</u>		Date <u>10/14/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring		
						HNU	LEL	
S-19	180-190			SAME AS S-18 (SW)	WATER IS DARK BROWN DUE TO SILT CONTENT	0	0	0
S-20	190-200			SAME AS S-18 (SW)		0	0	0
S-21	200-210			200-206: LT BROWN SAND (SP) P.G.D., M, SOME F, LITTLE C SANDS, TR GRAVEL, TR SILT		0	0	0
				206-210: LT BROWN SAND (SW) W.G.D., M-C, SOME F GRAVEL TR F SAND, TR SILT		0	0	0
S-22	210-220			LT BROWN SAND, P.G.D., F.M. LITTLE COARSE SAND, TR F GRAVEL, TR SILT (SP)		0	0	0
S-23	220-230			LT BROWN SAND, P.G.D., M. SOME C SANDS, LITTLE F SANDS, TR SILT, TR GRAVEL (SP)		0	0	0
S-24	230-240			LT BROWN SAND, P.G.D., F, LITTLE M SAND, TR COARSE SAND, LITTLE SILT. (SP)		0	0	0
S-25	240-250			240-245: SAME AS S-24 (SP) 245-250: LT BROWN GRAVELY SANDS, W.G.D., M-C, LITTLE F SAND, GRAVEL IS F-C, TR LARGE COBBLES, TR SILT. (SW)		0	0	0
				BOE 250'				

FIELD BORING LOG

Boring No. PBN-9

Project: No. 06853-03 | Project Name BADGE 2 AAP | Page 1 of 3
 Contractor LAYNE | Driller G. RODRIGUEZ | Date started 10-23-91, completed 10-23-91
 Method DUAL WALL | Casing Size 9" O.D. | HNU 71.7/10.2 | Protection Level D
 Ground El. | Soil Drilled 200' | \pm below ground 10' | Total Depth 200'
 Logged by DRP | Checked by DRP | Date 10/26/91

Sample No	Depth in Feet	Blows per 6 inches	Pen. rec	Description	HNU jar	Comments on Advance of Boring	Monitoring HNU	Time
0-10'		0-9'		BROWN CLAYEY SILT, TR F SAND, COHESIVE.		(ML)	0	0
		9-10'		LT BROWN SAND, WGD, C, SOME M, LITTLE F, LITTLE F GRAVEL, TR SILT. THIN INTERBEDS OF C GRAVEL AND CORBBLES		(SW)		
10-20				SAME AS ABOVE W/ THE THIN INTERBEDS OF CORBBLES ENDING AT 14'		(SW)	0	0
20-30				LT BROWN SAND, P.D, C, SOME M, SOME F, TR SILT, LITTLE F GRAVEL		(SP) ✓		
30-40				<u>30-32'</u> - LT BROWN SAND, WGD, C, SOME M, SOME F GRAVEL, LITTLE M SAND. <u>32-40'</u> - LT BROWN SAND, P.D, M, SOME C, TR F GRAVEL, TR F SAND, TR SILT		(SW) (SP)	0	0
40-50		40-44' 44-50'		SAME AS 32-40' LT BROWN SAND, WGD, C, SOME M, LITTLE F GRAVEL, TR C GRAV, TR F SAND, TR SILT		(SP) ✓ (SW)	0	0
50-60				LT DARK BROWN SANDY GRAVEL; WGD, F, LITTLE C, SAND: C, SOME M, TR F. CHANGING TO GRAVELY SAND		(GW) (SW)	0	0

FIELD BORING LOG				Boring No. 78V-41-12C	
Project: NO 06853-03		Project: Name BADGER AAP		Page <u>2</u> of <u>3</u>	
Contractor <u>LAYNE</u>		Driller <u>G. RODRIGUEZ</u>		Date started <u>10-23-91</u> completed <u>10-23-91</u>	
Method <u>DUAL WALL</u>		Casing Size <u>9" O.D.</u>		HNU <u>11.7102</u> Protection Level <u>D</u>	
Ground El <u> </u>		Soil Drilled <u>200'</u>		<u>±</u> below ground <u>0'</u> Total Depth <u>200'</u>	
Logged by <u>ECR</u>		Checked by <u>DRP</u>		Date <u>10/26/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	HNU Jar	Comments on Advance of Boring	Monitoring HNU EL	
60-70				LT BROWN SAND, WGD M-C, LITTLE F GRAVEL TR F SAND.		(SW)	0	0
70-80		70-75		LT BROWN SAND, PGD, M, LITTLE C, TR F.		(SP) ✓	0	0
		75-80		LT BROWN SAND, WGD, C, SOME M, LITTLE TO SOME F GRAVEL, TR COBBLES, TR CGRAV		(SW)		
80-90		80-84		SAME AS 75-80		(SW) ✓	0	0
		84-90		LT BROWN SAND, PGD M, SOME F, LITTLE C.		(SP)		
90-100				LT BROWN SAND, PGD, F, SOME M LITTLE SILT		(SP)	0	0
100-110				SAME AS 90-100		(SP)	0	0
110-120				" " "		(SP)	0	0
120-130				" " "		(SP)	0	0
130-140				LT BROWN TO BROWN SANDY GRAVEL, AND GRAVELY SAND, WGD GRAVEL: F SOME TO LITTLE C, TR COBBLES SAND: M-C, LITTLE TO TR F, TR SILT		(SW) (SW)	0	0
140-150				LT BROWN SAND, WGD, C, SOME M, LITTLE F, LITTLE F GRAVEL.		(SW)	0	0
150-160				SAME AS ABOVE		(SW)	0	0
170-180 160-170	RA			" " "		(SW)	0	0

Boring No. PBN-9

Page 3 of 4

Driver G Rodriguez

Date started 10-23-91 completed 10-23-91

Casing Size 9" O.D.

HAU 77102

Protection Level

Ground 2.

Soil Drilled 200

7 below ground / 01

Total Design Zco	
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Logged by *DR/C*

Checked by DRP

1 Date 10/26/91

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	NU or	Comments on Advance of Boring	Monitoring	NU	EL
	170-180			LT BROWN SAND, WGS, M-C, LITTLE F, LITTLE F GRAVEL, TR SILT	(SW)	WATER IS DARK BROWN DUE TO SILT CONTENT	0		C
	180-190			SAME AS ABOVE	(SW)		0		C
	190-200			SAME AS ABOVE CHANGING TO LT BROWN SAND, FGD. M-F, LITTLE C	(SP)		0		C
BOE = 200' BGS									

FIELD BORING LOG				Boring No. <u>PBN-91-12</u>	
Project: <u>NOG853-03</u>		Project Name: <u>BAOGEER AAP</u>		Page <u>1</u> of <u>3</u>	
Contractor: <u>LAYNE</u>		Driller: <u>G. RODRIGUEZ</u>		Date started: <u>10-15-91</u> completed: <u>10-16-91</u>	
Method: <u>DUALWALL</u>		Casing Size: <u>9" O.D.</u>		HNU: <u>11.7/10.2</u>	
Ground El:		Soil Drilled: <u>231'</u>		Protection Level: <u>D</u>	
		± below ground: <u>10'</u>		Total Depth: <u>231' C</u>	
Logged by: <u>KRIC</u>		Checked by: <u>DRP</u>		Date: <u>10/24/91</u>	

Sample No	Depth in Feet	Blows per 6 inches	Pen rec	Description	Comments on Advance of Boring	Monitoring
S-1	0-10'			0-5': <u>BROWN SILT</u> , Pgd, LITTLE F SANDS, TR COBBLES COHESIVE 5-10': <u>LT BROWN SAND</u> , WGD, M, SOME F SAND, SOME C, LITTLE F GRAVEL, TR COBBLES	(ML) (SW)	GAJ/ATQ C
S-2	10-20'			<u>LT BROWN SAND</u> , WGD, M-C, SOME F, LITTLE F GRAVEL, TR COBBLES, TR SILT.	(SW)	O
S-3	20-30'			<u>LT BROWN SAND</u> , M-C, Pgd, LITTLE F, TR F GRAVEL	(SP)	O
S-4	30-40'			<u>LT BROWN SAND</u> , FBOR TO MOD GRADED, SIMILAR TO S-3. THIN INTERBEDS OF GRAVEL.	(SP)	O
S-5	40-50'	40-47': 47-50':		40-47': <u>LT BROWN SAND</u> , Pgd, M, SOME C, LITTLE F, TR F GRAVEL. 47-50': <u>BROWN SANDY GRAVEL</u> WGD, F, LITTLE C (RR) SAND: SOME C, M, SOME F , SOME M, LITTLE F	(SP) ✓(GW)	O
S-6	50-60'	50-55': 55-60'		SAME AS 47-50' 50-55': <u>LT BROWN GRAVELY SAND</u> , WGD, C, SOME M, LITTLE F, GRAVEL: FINE, TR C GRA, TR SILT.	(SW)	O
S-7	60-70'			<u>LT BROWN SAND</u> , WGD, C, SOME M, SOME F GRV, LITTLE F SAND, TR SILT, TR COBBLES.	(SW)	O

FIELD BORING LOG				Boring No. PBW-91-	
Project: NOC653-03		Project Name: BARCLER AAP		Page 2 of 3	
Contractor: LAYNE		Driller: G. RODRIGUEZ		Date started: 10-25-91 completed: 10-16-91	
Method: WALL WALL	Casing Size: 9" O.D.	HNU: 11.71/0.2		Protection Level: D	
Ground El:		Soil Drilled: 231'	± below ground/bi:		Total Depth: 231'
Logged by: JRR		Checked by: DRP		Date: 10/24/91	

Sample No	Depth in Feet	Blows per 6 inches	Pen rec	Description	Comments on Advance of Boring	Monitoring HNU 1 E
S-8	70'-80'	70-77'	77-80	LT BROWN SAND, Pgd, c, Sand m, TR F SAND. LT BROWN SAND, WGD, c, Some F GRAVEL, LITTLE m SAND, TR COBBLE, TR F SAND, TR SILT.	(SP) (SW)	JAR A
S-9	80-90'			LT BROWN SAND, Pgd, GRADING FROM m TO F w/ DEPTH, LITTLE TO TR c SAND, TR COBBLES, LITTLE SILT.	(SP) CHANGE BITS	
S-10	90-100'			LT BROWN SAND, Pgd, F, LITTLE m, LITTLE SILT, TR c, WLT	(SP) 101'	
S-11	100-110'			LT BROWN SAND, Pgd, F, LITTLE SILT, LITTLE m SAND	(SP)	
S-12	110-120			SAME AS 100-110'	(SP)	
S-13	120-130			LT BROWN SAND, Pgd, m, Some F, LITTLE c, TR F GRAVEL	(SP) START PUMPING	
S-14	130-140			BROWN SANDY GRAVEL, WGD, F, LITTLE c GRAVEL GRADING TO SOME c GRAVEL. SAND: c, LITTLE m, LITTLE SILT, TR COBBLES.	(FW) WATER HAS BROWN COLOR	
S-15	140-150			LT BROWN SAND, WGD, c, Some m, LITTLE F GRAVEL, TR F SAND, TR SILT	(SW)	
S-16	150-160	150-155 155-160		SAME AS 140-150 LT BROWN SAND, WGD, c, LITTLE m, Some F GRAVEL, TR F SAND, TR SILT	(SW)	
S-17	160-170			SAME AS 155-160	(SW)	
S-18	170-180			LT BROWN SAND, WGD, c, Some m, LITTLE F GRAVEL, TR F SAND, TR SILT	(SW)	
S-19	180-190			SAME AS S-19	(SW)	

FIELD BORING LOG				Boring No. PBW-91-120	
Project No. 06453-03		Project Name: SANDLER AAP		Page 3 of 3	
Contractor: LAYNE		Driller: C. RODRIGUEZ		Date started: 10-15-91, completed: 10-16-91	
Method: DUAL WALL		Casing Size: 9" O.D.		HNU: 11.7/10.2	
Ground El:		Soil Drilled: 231'		2' below ground / 0.1' Total Depth: 231'	
Logged by: KRR		Checked by: DRP		Date: 10/24/91	
Protection Level:					

Sample No	Depth in Feet	Blows per 6 inches	Pen Rec	Description	Comments on Advance of Boring	Monitoring HNU / LE	
S-20	190-200			SAME AS S-18		JAR	ATR
S-21	200-210			LT BROWN SAND, P.G.D, M-C TR F GRAVEL, TR F SAND TR SILT	SP	0	
S-22	210-220	210-216 210-220		SAME AS S-21 BROWN GRAVELY SAND, W.G.D. C. Some M, TR F, TR SILT TR COBBLES. GRAVEL: F, LITTLE C	SW	0	
S-23	220-230			LT BROWN SAND, W.G.D, M-C Some F GRAVEL, TR SILT LITTLE F SAND, TR C GRAVEL	PROBLEM WITH HEAVING SANDS SW	0	
				BOE = 231'			

FIELD BORING LOG

BORING NO. PBM-89-07

PROJECT NO.: 5753-	PROJECT NAME: USATHAMA- BAAP	PAGE 1	OF 1
DRILLING CONTRACTOR: LAYNE-NORTHWEST	DRILLER: Dallas	DATE STARTED 3/2/89	COMPLETED 3/3
METHOD: HSA	CASING SIZE: 6.25"	TIP EV:	PROTECTION LEVEL: D
GROUND ELEV.: 846.6	SOIL DRILLED: 95 feet	WATER LEVEL: 77.2 feet bgs	TOTAL DEPTH: 95 feet
LOGGED BY: B.K.B.	CHECKED BY:	DATE:	

SAMPLE NO.	DEPTH : FEET	BLOWS PER 6-INCHES	PEV.	DESCRIPTION	COMMENTS ON ADVANCE OF BORING	MONITOR:
			REC.			
				0-2' bgs: black organic rich <u>topsoil</u> .		
				2-14' bgs: brown, sticky silt and fine sand. Moist <u>LOESS</u>		
				14-95' Well to Poorly graded fine to med. sand with little gravel - <u>outwash</u>		
				Note overdrilled to 110'		

FIELD BORING LOG

BORING NO. FSN-27-123

PROJECT NO.: 5753-

PROJECT NAME: USATHAMA- BAAP

PAGE 1 OF 2

DRILLING CONTRACTOR: LAYNE-NORTHWEST

DRILLER: G. Rodriguez

DATE STARTED 4/14/89

COMPLETED 4/15/89

METHOD: AP-1000

CASING SIZE: 9 in

TIP SV:

PROTECTION LEVEL: D

GROUND ELEV.: 85.6

SOIL DRILLED: 140 ft

WATER LEVEL: 85 ft

TOTAL DEPTH: 140 ft

LOGGED BY: JAE

CHECKED BY: SJP 4/26/89 DATE: 4/14/89

SAMPLE NO.	DEPTH IN FEET	BLOWS PER 5-INCHES	PEN. REC.	DESCRIPTION	COMMENTS ON ADVANCE OF BORING	MONITORING	
						TIP	CEL
S1	0-10 ft			light brown to tan fm-coarse SAND w/ little fine angular gravel + silt. Dry	0-5.0 TOP SOIL		0.0
S2	10-20			light brown fm-med SAND w/ little coarse sand + fm-med Gravel - Moist. (SP)			0.0
S3	20-30			Tan fine SAND w/ trace coarse sand + fine gravel slightly moist. (SP)			0.0
S4	30-40			Same as S3 (SP)			0.0
S5	40-50			Same as S3 dry (SP)			0.0
S6	50-60			light brown fm-med SAND w/ little coarse sand + fine gravel. slightly moist-dry (SP)			0.0
S7	60-70			Same as S6 (SP)			0.0
S8	70-80			light brown fm-med SAND, occasional Gravel (SP) slightly moist-dry			0.0
S-9	80-90			light brown med-coarse SAND w/ Gravel + some fm sand. dry grading to moist-wet below 25 ft. (SP)			0.0

FIELD BORING LOG

BORING NO. SN-39-122PROJECT NO.: 5753-00PROJECT NAME: USATHAMA-BAAPPAGE 2 OF 2DRILLING CONTRACTOR: LAYNE-NORTHWESTDRILLER: B. H. Melhorne

DATE STARTED

4/14/89COMPLETED 4/16METHOD: AP-1000

CASING SIZE:

9"

TIP SV:

PROTECTION LEVEL:

DGROUND ELEV.: 88.6

SOIL DRILLED:

140'

WATER LEVEL:

85'

TOTAL DEPTH:

140'LOGGED BY: B.S.CHECKED BY: J.P.4/26/89 DATE:

SAMPLE NO.	DEPTH IN FEET	BLOWS PER 6-INCHES	PEN.	DESCRIPTION	COMMENTS ON ADVANCE OF BORING	MONITOR
			REC.			
S 10	90-100			Brown fine-med SAND Trace Crse Sand W/LT (SP)		CC
S 11	100-110			Same as S 10	(SP)	
S 12	110-120			Same as S 10	(SP)	
S 13	120-130			Same as S 10	(SP)	
S 14	130-140			Same as S 10 130-133 133-140 Crse SAND and Sn-Crse Gravel (SP)		
				140' BOE		

FIELD BORING LOG

BORING NO. PBN-89-04C

PROJECT NO.: 5753-08 PROJECT NAME: USATHAMA-BAAP PAGE 1 OF 2
 DRILLING CONTRACTOR: LAYNE-NORTHWEST DRILLER: G. Roques DATE STARTED 4/15/89 COMPLETED 4/16/89
 METHOD: AP-1000 CASING SIZE: 9.0" TIP EV: TE 10.6ev PROTECTION LEVEL: D
 GROUND ELEV.: 857.7 SOIL DRILLED: 190' WATER LEVEL: \pm 87' TOTAL DEPTH: 190'
 LOGGED BY: Buss CHECKED BY: gsh. DATE: 4/26/89

SAMPLE NO.	DEPTH IN FEET	BLOWS PER 6-INCHES	REV.	DESCRIPTION	COMMENTS ON ADVANCE OF BORING	MONITORING	
			REC.			TIP	EL.
S#1	0-10			Black organic silty topsoil and Brown silt (loess) to 5 ft, Tan Sn Sand wt/ occ gravel to 10 ft moist	TIP Bkgd = 0.0-0.5	0.1	
S#2	10-20			Sn-med SAND wt/ some crse sand + Sn-med gravel dry-moist (sp)		0.0	
S#3	20-30			Tan Sn-med SAND wt occasional gravel (well rounded) dry-moist. (sp)		0.2	
S#4	30-40			Same as S#3 (sp)		0.0	
S#5	40-50			Same as S#3 (sp)		0.1	
S#6	50-60			light brown Sn-crse Sand wt/ Trce fine gravel dry-moist (sp)	coarsening downward	0.3	
S#7	60-70			brown Med to Crse SAND wt/ some Sn Sand + Trce fine gravel (sp)		0.1	
S#8	70-80			brown Med - Crse Sand and Med to Crse Gravel well rounded dry-moist (sp)		0.0	
S#9	80-90			brown Med Sand wt some Crse Sand + occ. gravel + fine Sand (sp)		0.0	

FIELD BORING LOG				BORING NO. <i>PBN-89-042</i>	
PROJECT NO.: <i>5753-06</i>		PROJECT NAME: <i>USATHAMA-BAAP</i>		PAGE <i>2</i> OF <i>2</i>	
DRILLING CONTRACTOR: <i>LAYNE-NORTHWEST</i>		DRILLER: <i>A. Rodriguez</i>		DATE STARTED <i>4/15/89</i> COMPLETED <i>4/15</i>	
METHOD: <i>AP-1000</i>		CASING SIZE: <i>9"</i>		TIP EV: <i>TE 10.6 CV</i> PROTECTION LEVEL: <i>D</i>	
GROUND ELEV.: <i>857.7</i>		SOIL DRILLED: <i>190'</i>		WATER LEVEL: <i>~87 ft</i> TOTAL DEPTH: <i>190'</i>	
LOGGED BY: <i>Bues</i>		CHECKED BY: <i>SLR</i> <i>4/26/89</i>		DATE: <i>4/15/89</i>	

SAMPLE NO.	DEPTH IN FEET	BLOWS PER 6-INCHES	PEN. REC.	DESCRIPTION	COMMENTS ON ADVANCE OF BORING	MONITOR	
						TIP	LB
S 10	90-100			Same as S#9 wet (SP)		0.0	
S 11	100-110			Brown fn-med SAND Tree silt. (SP)		0.0	
S# 12	110-120			Same as S#11 (SP)		0.0	
S#13	120-130			Same as S#11 (SP)		0.0	
S#14	130-140			brown fn-med SAND w/ occasional angular gravel cobbles at 140 ft	change @ 140	0.0	
S# 15	140-150			Coarse - fn. Gravel w/ cobbles + a little sa crse Sand wet. (SP)		0.0	
S# 16	150-160			Coarse Sand and gravel to 155 ft grades to Brown med-fn SAND w/ Tree crse SAND (SP)	change @ 165'	0.0	
S# 17	160-170			Brown Med-fn SAND with some crse Sand and fine gravel at 168-170 ft. (SP)		0.0	
S# 18	165-170 170-180			Brown fine Sand with some Med. Sand + Tree silt. (SP)		0.0	
S#19	180-190			Brown Med Sand w/ some fine crse Sand + occasional Gravel. (SP)		0.0	

Total Depth 190'

US ARMY ENVIRONMENTAL HYGIENE AGENCY

DRILLING LOG

(The proponent of this form is HSHB-ES)

PROJECT Badger AAP DATE 28 Sep 85
 LOCATION South of Procellant DRILLERS 20th Eng Bde.
Burning Ground Geologist - Fox
 DRILL RIG Failing 1500 BORE HOLE PBM-85-05

(Feet) DEPTH	SAMPLE TYPE	DESCRIPTION	REMARKS
	BLOWS PER 6 IN.		
0		Silt, dark brown	
		Silt, with clay and sand, fine grained, tan	
10		Sand, medium to coarse grained, with gravel	
20		Sand, medium to coarse grained and fine gravel	
30			

AEHA Form 130, 1 Nov 82

Replaces HSHB Form 18, 1 Jun 80, which will be used.

US ARMY ENVIRONMENTAL HYGIENE AGENCY

DRILLING LOG

(The proponent of this form is HSHB-ES)

PROJECT Badger AAP DATE 28 Sep 85
 LOCATION South of Propellant DRILLERS 20th Eng Bde.
Burning Ground Geologist - Fox
 DRILL RIG Failing 1500 BORE HOLE PBM-85-05

(Feet) DEPTH	SAMPLE TYPE	DESCRIPTION	REMARKS
	BLOWS PER 6 IN.		
30		Same as above	
40		Coarse to fine gravel, and sand, medium to coarse grained	
50			
60		Gravel, coarse to fine, sand, fine to coarse grained and occasional cobbles	

AEHA Form 130, 1 Nov 82

Replaces HSHB Form 78, 1 Jun 80, which will be used.

US ARMY ENVIRONMENTAL HYGIENE AGENCY

DRILLING LOG

(The predecessor of this form is MSHB-ES)

PROJECT Badger AAP DATE 28 Sep 85
 LOCATION South of Propellant DRILLERS 20th Eng Bde.
Burning Ground Geologist - Fox
 DRILL RIG Falling 1500 BORE HOLE PBM-85-05

(Feet) DEPTH	SAMPLE TYPE	DESCRIPTION	REMARKS
	BLOWS PER 6 IN.		
60			
		Gravel, coarse to fine and sand coarse to fine grained	
70			
80			
		Sand, fine to coarse grained with fine gravel	
90			

AEHA Form 130, 1 Nov 82

Replaces MSHB Form 78, 1 Jun 80, which will be used.

US ARMY ENVIRONMENTAL HYGIENE AGENCY

DRILLING LOG

(The proponent of this form is HSMG-ES)

PROJECT Badger AAP DATE 28 Sep 85
 LOCATION South of Propellant DRILLERS 20th Eng Bde.
Burning Ground Geologist - Fox
 DRILL RIG Failing 1500 BORE HOLE PBM-85-05

(Feet) DEPTH	SAMPLE TYPE	DESCRIPTION	REMARKS
	BLOWS PER 6 IN.		
90		Same as above	
100			
110		Bottom of Hole	
120			

AEHA Form 130, 1 Nov 82

Replaces HSMG Form 78, 1 Jun 80, which will be used.

MONITORING WELL CONSTRUCTION FOR

Facility/Project Name BADGER AAP		Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		Well Name PBP-91-01B	
Permit License, Permit or Monitoring Number _____		Date well installed 10/13/91		Well Unique Well Number _____	
Type of well: Water Table Observation Well <input type="checkbox"/> II Piezometer <input checked="" type="checkbox"/>		Section Location NE 1/4 of NW 1/4 of Section 23		Well installed By: (person's Name and firm) G. RODRIGUEZ	
Distance Well is from water source boundary NA ft.		Location of well relative to water source <input type="checkbox"/> Upgradient <input type="checkbox"/> Slightly downgradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		LAYNE	
Is well a point of enforcement out Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

A. Protective pipe, top elevation 850.60 ft. MSL B. Well casing, top elevation 850.53 ft. MSL C. Land surface elevation 848.3 ft. MSL D. Surface seal, bottom _____ ft. MSL or _____ ft. 12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input checked="" type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock 13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 DUAL WALL Other <input type="checkbox"/> 15. Drilling fluid used: Water <input checked="" type="checkbox"/> Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99 16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe N/A 17. Source of water (attach analysis): PRODUCTION WELL #2	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2. Protective cover pipe: a. Inside diameter: _____ b. Length: _____ c. Material: _____ 3. Surface seal: _____ 4. Material between well casing and protective pipe: _____ 5. Annular space seal: _____ _____ Lbs/gal mud weight ... Bentonite-sand slurry _____ Lbs/gal mud weight ... Bentonite slurry 10 % Bentonite ... Bentonite-cement grout 150 Ft ³ volume added for any of the above How installed: _____ _____ 6. Bentonite seal: _____ 1/4 in. 3/8 in. 1/2 in. Bentonite pellets BENTONITE POWDER Other <input type="checkbox"/> 7. Fine sand material: _____ Volume added _____ ft ³ 8. Filter pack material: _____ COLORADO SILICA SAND #4 Volume added 16 ft ³ 9. Well casing: _____ Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> Flush threaded PVC schedule 80 <input type="checkbox"/> Other <input type="checkbox"/> 10. Screen material: SCN 40 PVC Screen type: _____ Factory cut <input checked="" type="checkbox"/> Continuous slot <input type="checkbox"/> Other <input type="checkbox"/> Manufacturer TIMECO Slot size: _____ Slotted length: _____ 11. Backfill material (below filter pack): _____ None <input checked="" type="checkbox"/> Other <input type="checkbox"/>
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E. Bentonite seal, top _____ ft. MSL or _____ ft. F. Fine sand, top _____ ft. MSL or _____ ft. G. Filter pack, top 724.3 ft. MSL or 124.0 ft. H. Well screen, top 714.3 ft. MSL or 134.0 ft. I. Well screen, bottom 670.43 ft. MSL or 144.8 ft. J. Filter pack, bottom 704.3 ft. MSL or 144.8 ft. K. Borehole, bottom 593.5 ft. MSL or 253.0 ft. L. Borehole, diameter 09.0 in. M. O.D. well casing 04.25 in. N. I.D. well casing 04.10 in.	
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: **Paul R. ...** Firm: **APB-ES**

ABB Environmental Services, Inc.

MONITORING WELL CONSTRUCTION

Facility/Project Name <u>Radon AAP</u>	Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. ft. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name <u>PBP-91-01C</u>
Facility License, Permit or Monitoring Number		Well Unique Well Number <u>Link well</u>
Type of Well: Water Table Observation Well <input type="checkbox"/> II Piezometer <input checked="" type="checkbox"/> II	Section Location <u>NE</u> 1/4 of <u>NW</u> 1/4 of Section <u>23</u>	Date well installed <u>10/13/91</u>
Distance well is from water source boundary <u>NA</u> ft.	T <u>10</u> N. R <u>6</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well installed by: (Person's Name and Firm) <u>G. R. R. W. E.</u>
Is well A Point of Enforcement Stat. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location of well relative to Water Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	<u>LAYNE</u>

A. Protective pipe, top elevation <u>850.60</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes
B. Well casing, top elevation <u>850.53</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>0.6</u> b. Length: <u>0.6</u> c. Material: <u>Steel</u> d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: <u>BURNING PASTS</u>
C. Land surface elevation <u>848.3</u> ft. MSL	3. Surface seal: <u>Bentonite</u>
D. Surface seal bottom <u> </u> ft. MSL or <u> </u> ft.	4. Material between well casing and protective pipe: <u>Bentonite</u> <u>Annular space seal</u> <u>Other</u>
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input checked="" type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	5. Annular space seal: <u>Granular Bentonite</u> <u>Lbs/gal mud weight: . . . Bentonite sand slurry</u> <u>Lbs/gal mud weight: . . . Bentonite slurry</u> <u>10 % Bentonite . . . Bentonite-cement grout</u> <u>150</u> Ft ³ volume added for any of the above How installed: <u>Tremie</u> <u>Tremie pumped</u> <u>Gravity</u>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Bentonite seal: <u>Bentonite granules</u> <u>1/4 in. 3/8 in. 1/2 in. Bentonite pellets</u> <u>BENTONITE POWDER</u> <u>Other</u>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>DUAL WALL</u> Other <input type="checkbox"/> <u> </u>	7. Fine sand material: Manufacturer, product name and grade <u> </u> Volume added <u> </u> ft ³
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99	8. Filter pack material: Manufacturer, product name and grade <u>COLORADO SILICA SAND #4</u> Volume added <u>16</u> ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	9. Well casing: <u>Flush threaded PVC schedule 40</u> <u>Flush threaded PVC schedule 30</u> <u>Other</u>
Describe <u> </u>	10. Screen material: <u>SCH 40 PVC</u> Screen type: <u>Factory cut</u> <u>Continuous slot</u> <u>Other</u>
17. Source of water (attach analysis): <u>PRODUCTION WELL #2</u>	Manufacturer <u>TIMECO</u> Slot size: <u>0.01</u> Slotted length: <u>1</u>
E. Bentonite seal, top <u>688.3</u> ft. MSL or <u>160.0</u> ft.	11. Backfill material (below filter pack): <u>None</u> <u>Other</u>
F. Fine sand, top <u> </u> ft. MSL or <u> </u> ft.	
G. Filter pack, top <u>678.3</u> ft. MSL or <u>170.0</u> ft.	
H. Well screen, top <u>668.3</u> ft. MSL or <u>180.0</u> ft.	
I. Well screen, bottom <u>658.3</u> ft. MSL or <u>190.0</u> ft.	
J. Filter pack, bottom <u>658.3</u> ft. MSL or <u>190.0</u> ft.	
K. Borehole, bottom <u>595.3</u> ft. MSL or <u>253.0</u> ft.	
L. Borehole, diameter <u>0.90</u> in.	
M. O.D. well casing <u>0.125</u> in.	
N. I.D. well casing <u>0.110</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Robert R. Threlkeld Date 11/13/91

ABB Environmental Services, Inc.
MONITORING WELL CONSTRUCTION FOR

Facility/Project Name TSADGER AAP		Grid Location ft <input type="checkbox"/> N <input type="checkbox"/> S ft <input type="checkbox"/> E <input type="checkbox"/> W		Well Name PTBP-91-01D	
Facility License, Permit or Monitoring Number _____		_____		Well Unique Well Number _____	

Type of Well: Water Table Observation Well <input type="checkbox"/> II Piezometer <input checked="" type="checkbox"/>		Section Location NE 1/4 of NW 1/4 of Section 23		Date Well Installed 10/13/91	
Distance Well is from Watersource Boundary NA ft		T 10 N 3 60 E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) C. RODRIGUEZ	
Is Well A Point of Enforcement or Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Location of Well Relative to Watersource: <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		LAYNE	

A. Protective pipe, top elevation **850.60** ft MSL

B. Well casing, top elevation **850.53** ft MSL

C. Land surface elevation **848.3** ft MSL

D. Surface seal, bottom _____ ft MSL or _____ ft

12. USCS classification of soil near screen:
☐ GP ☐ GM ☐ GC ☒ GW ☐ SW ☐ SP
☐ SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH
☐ Bedrock

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
 Hollow Stem Auger ☐ 41
DUAL WALL Other ☒

15. Drilling fluid used: Water ☒ 02 Air ☐ 01
 Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis):
#2 PRODUCTION PUMP

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
 a. Inside diameter: **06.0**
 b. Length: **06.0**
 c. Material: _____
 d. Additional protection? ☐ Yes ☒ No
 If yes, describe **BUCKING POSTS**

3. Surface seal: _____
 Concrete ☐ Other ☐

4. Material between well casing and protective pipe:
 Bentonite ☐ Annular space seal ☒ Other ☐

5. Annular space seal: _____
 Granular Bentonite ☐ Lbs/gal mud weight _____ Bentonite sand slurry ☐
 Lbs/gal mud weight _____ Bentonite slurry ☐
10 % Bentonite _____ Bentonite-cement grout ☒
150 Ft³ volume added for any of the above
 How installed: _____
 Tremie ☐ Tremie pumped ☐ Gravel ☒

6. Bentonite seal: _____
 Bentonite granules ☐ ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐
Bentonite Powder Other ☐

7. Fine sand material: _____
 Manufacturer, product name and mesh size
 Volume added _____ ft³

8. Filter pack material: _____
 Manufacturer, product name and mesh size
COLORADO SILICA SAND #4
 Volume added **16** ft³

9. Well casing: _____
 Flush threaded PVC schedule 40 ☒ 20
 Flush threaded PVC schedule 30 ☐ 24
 Other ☐

10. Screen material: **SCH 40 PVC**
 Screen type: _____
 Factory cut ☒ 11
 Continuous slot ☐ 01
 Other ☐

11. Backfill material (below filter pack): _____
 None ☒ Other ☐

E. Bentonite seal, top 627.3 ft MSL or 231.0 ft	
F. Fine sand, top _____ ft MSL or _____ ft	
G. Filter pack, top 617.3 ft MSL or 231.0 ft	
H. Well screen, top 605.8 ft MSL or 242.5 ft	
I. Well screen, bottom 595.8 ft MSL or 252.5 ft	
J. Filter pack, bottom 595.3 ft MSL or 253.0 ft	
K. Borehole, bottom 595.3 ft MSL or 253.0 ft	
L. Borehole, diameter 9.0 in.	
M. O.D. well casing 1.25 in.	
N. I.D. well casing 1.10 in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm _____

ABB Environmental Services, Inc.

MONITORING WELL CONSTRUCTION

Facility/Project Name BADGER AAP		Grid Location ft <input type="checkbox"/> N <input type="checkbox"/> S ft <input type="checkbox"/> E <input type="checkbox"/> W		Well Name PBP-91-028
Factory License, Permit or Monitoring Number				Well Unique Well Number
Type of Well: Water Table Observation Well <input type="checkbox"/> II Piezometer <input checked="" type="checkbox"/> II	Section Location NE 1/4 of NW 1/4 of Section 25		Date well installed 10/1/59	
Distance Well is from water source boundary N/A ft	Location of Well relative to Waste/Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		Well installed by: (Person's Name and Firm) G. RODRIGUEZ	
Is well A Point of Enforcement Sit. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		LAYNE		

<p>A. Protective pipe, top elevation 850.10 ft. MSL</p> <p>B. Well casing, top elevation 850.09 ft. MSL</p> <p>C. Land surface elevation 847.6 ft. MSL</p> <p>D. Surface seal bottom _____ ft. MSL or _____ ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:</p> <p><input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input checked="" type="checkbox"/> SW <input type="checkbox"/> SP</p> <p><input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH</p> <p><input type="checkbox"/> Bedrock</p> </div> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 DUAL WALL Other <input type="checkbox"/> _____</p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis): PRODUCTION WELL #2</p>	<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter _____ b. Length _____ c. Material _____ d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe BRICKING POSTS</p> <p>3. Surface seal: _____ Bentonite _____ Concrete _____ Other _____</p> <p>4. Material between well casing and protective pipe: Bentonite _____ Annular space seal _____ Other _____</p> <p>5. Annular space seal: Granular Bentonite _____ Lbs/gal mud weight _____ Bentonite-sand slurry _____ Lbs/gal mud weight _____ Bentonite slurry _____ 10% Bentonite _____ Bentonite-cement grout _____ 150 Ft³ volume added for any of the above How installed: Tremie _____ Tremie pumped _____ Gravity _____</p> <p>6. Bentonite seal: Bentonite granules _____ <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets _____ BENTONITE POWDER Other _____</p> <p>7. Fine sand material: Manufacturer, product name and _____ Volume added _____ ft³</p> <p>8. Filter pack material: Manufacturer, product name and _____ COLORADO SILICA SAND Volume added 10 ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> Flush threaded PVC schedule 30 <input type="checkbox"/> Other <input type="checkbox"/></p> <p>10. Screen material: SCH 40 PVC Screen type: Factory cut <input type="checkbox"/> Continuous slot <input type="checkbox"/> Other <input type="checkbox"/> Manufacturer TIMCO Slot size: 0.0 _____ Slotted length: 15 _____</p> <p>11. Backfill material (below filter pack): None _____ Other _____</p>
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<p>E. Bentonite seal, top NONE ft. MSL or NONE ft.</p> <p>F. Fine sand, top NONE ft. MSL or NONE ft.</p> <p>G. Filter pack, top 727.6 ft. MSL or 120.0 ft.</p> <p>H. Well screen, top 717.3 ft. MSL or 130.3 ft.</p> <p>I. Well screen, bottom 707.3 ft. MSL or 140.3 ft.</p> <p>J. Filter pack, bottom 706.6 ft. MSL or 141.0 ft.</p> <p>K. Borehole, bottom 594.1 ft. MSL or 253.5 ft.</p> <p>L. Borehole, diameter 09.0 in.</p> <p>M. O.D. well casing 01.25 in.</p> <p>N. I.D. well casing 01.00 in.</p>	
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Paul R. Rasmussen* Firm **ABB-ES**

ABB Environmental Services, Inc.
MONITORING WELL CONSTRUCTION FORM

Facility/Project Name BADGER AAP		Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.		Well Name P13P-91-02C	
Facility License, Permit or Monitoring Number _____		_____		Well Unique Well Number _____	
Type of Well: Water Table Observation Well <input type="checkbox"/> II Piezometer <input checked="" type="checkbox"/>		Section Location NE 1/4 of SW 1/4 of Section 23		Date well installed 10/14/91	
Distance well is from water source boundary NA ft.		T <u>10</u> N <u>3</u> E <u>6</u> W		Well installed by: (Person's Name and Firm) G. RODRIGUEZ	
Is well a Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Location of Well relative to Waste Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		LAYNE	

<p>A. Protective pipe, top elevation 850.20 ft. MSL</p> <p>B. Well casing, top elevation 850.09 ft. MSL</p> <p>C. Land surface elevation 842.6 ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or _____ ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>12. USCS classification of soil near screen:</p> <p><input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input checked="" type="checkbox"/> SW <input type="checkbox"/> SP</p> <p><input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH</p> <p><input type="checkbox"/> Bedrock</p> </div> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>DUAL WALL</u> Other <input type="checkbox"/> _____</p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input checked="" type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis): <u>PRODUCTION WELL #2</u> </p>	<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: _____ b. Length: _____ c. Material: _____ d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>BURNING PESTS</u> </p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 Concrete <input checked="" type="checkbox"/> 2 Other <input type="checkbox"/> _____</p> <p>4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 3 Annular space seal <input checked="" type="checkbox"/> _____ Other <input type="checkbox"/> _____</p> <p>5. Annular space seal: Granular Bentonite <input type="checkbox"/> 3 Lbs/gal mud weight: _____ Bentonite-sand slurry <input type="checkbox"/> 3 Lbs/gal mud weight: _____ Bentonite slurry <input type="checkbox"/> 3 <u>10</u> % Bentonite: _____ Bentonite-cement grout <input checked="" type="checkbox"/> 3 <u>150</u> Ft³ volume added for any of the above How installed: Tremie <input type="checkbox"/> 3 Tremie pumped <input type="checkbox"/> 3 Gravity <input checked="" type="checkbox"/> 3</p> <p>6. Bentonite seal: Bentonite granules <input type="checkbox"/> 3 <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 3 <u>BENTONITE POWDER</u> Other <input checked="" type="checkbox"/> _____</p> <p>7. Fine sand material: Manufacturer, product name and mesh size: Volume added _____ ft³</p> <p>8. Filter pack material: Manufacturer, product name and mesh size: <u>COLORADO SILICA SAND</u> Volume added <u>16</u> ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 Flush threaded PVC schedule 30 <input type="checkbox"/> 2 Other <input type="checkbox"/> _____</p> <p>10. Screen material: <u>SCN 40 PVC</u> Screen type: Factory cut <input checked="" type="checkbox"/> 1 Continuous slot <input type="checkbox"/> 0 Other <input type="checkbox"/> _____</p> <p>Manufacturer <u>TYMCO</u> Slot size: <u>0.015</u> in. Slotted length: <u>18.0</u> in.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 3 Other <input type="checkbox"/> _____</p>
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<p>E. Bentonite seal, top 687.6 ft. MSL or 160.0 ft.</p> <p>F. Fine sand, top _____ ft. MSL or _____ ft.</p> <p>G. Filter pack, top 677.6 ft. MSL or 170.0 ft.</p> <p>H. Well screen, top 667.3 ft. MSL or 180.3 ft.</p> <p>I. Well screen, bottom 657.3 ft. MSL or 190.3 ft.</p> <p>J. Filter pack, bottom 657.0 ft. MSL or 190.0 ft.</p> <p>K. Borehole, bottom 594.1 ft. MSL or 253.5 ft.</p> <p>L. Borehole, diameter 09.0 in.</p> <p>M. O.D. well casing 01.35 in.</p> <p>N. I.D. well casing 01.10 in.</p>	<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: _____ b. Length: _____ c. Material: _____ d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>BURNING PESTS</u> </p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 Concrete <input checked="" type="checkbox"/> 2 Other <input type="checkbox"/> _____</p> <p>4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 3 Annular space seal <input checked="" type="checkbox"/> _____ Other <input type="checkbox"/> _____</p> <p>5. Annular space seal: Granular Bentonite <input type="checkbox"/> 3 Lbs/gal mud weight: _____ Bentonite-sand slurry <input type="checkbox"/> 3 Lbs/gal mud weight: _____ Bentonite slurry <input type="checkbox"/> 3 <u>10</u> % Bentonite: _____ Bentonite-cement grout <input checked="" type="checkbox"/> 3 <u>150</u> Ft³ volume added for any of the above How installed: Tremie <input type="checkbox"/> 3 Tremie pumped <input type="checkbox"/> 3 Gravity <input checked="" type="checkbox"/> 3</p> <p>6. Bentonite seal: Bentonite granules <input type="checkbox"/> 3 <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 3 <u>BENTONITE POWDER</u> Other <input checked="" type="checkbox"/> _____</p> <p>7. Fine sand material: Manufacturer, product name and mesh size: Volume added _____ ft³</p> <p>8. Filter pack material: Manufacturer, product name and mesh size: <u>COLORADO SILICA SAND</u> Volume added <u>16</u> ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 Flush threaded PVC schedule 30 <input type="checkbox"/> 2 Other <input type="checkbox"/> _____</p> <p>10. Screen material: <u>SCN 40 PVC</u> Screen type: Factory cut <input checked="" type="checkbox"/> 1 Continuous slot <input type="checkbox"/> 0 Other <input type="checkbox"/> _____</p> <p>Manufacturer <u>TYMCO</u> Slot size: <u>0.015</u> in. Slotted length: <u>18.0</u> in.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 3 Other <input type="checkbox"/> _____</p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Paul R. Rumbold Firm ABB-ES

ABB Environmental Services, Inc.
MONITORING WELL CONSTRUCTION

Facility/Project Name <u>BADGER LAR</u>	Grid Location ft. <input type="checkbox"/> N <input type="checkbox"/> S ft. <input type="checkbox"/> E <input type="checkbox"/> W	Well Name <u>PBP-91-02D</u>
Facility License, Permit or Monitoring Number		Well Unique Well Number
Type of Well: Water Table Observation Well <input type="checkbox"/> II Piezometer <input checked="" type="checkbox"/> II	Section Location <u>NE 1/4 of 44 1/4 of Section 23</u> T <u>10</u> N. R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Date well installed <u>10/14/91</u>
Distance Well is from water source boundary <u>NA</u> ft.	Location of Well relative to Water Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	Well installed by: (person's name and firm) <u>G. RODRIGUEZ</u> <u>LAYNE</u>
Is well A Point of Enforcement Sub. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

A. Protective pipe, top elevation <u>850.10</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>850.09</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>0.9</u> b. Length: <u>0.1</u> c. Material: <u>Steel</u> d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>BUCKING POSTS</u>
C. Land surface elevation <u>842.6</u> ft. MSL	3. Surface seal: <u>Bentonite</u> <u>Concrete</u> <u>Other</u>
D. Surface seal, bottom _____ ft. MSL or _____ ft.	4. Material between well casing and protective pipe: <u>Bentonite</u> <u>Annular space seal</u> <u>Other</u>
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input checked="" type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	5. Annular space seal: <u>Granular Bentonite</u> <u>Lbs/gal mud weight . . . Bentonite sand slurry</u> <u>Lbs/gal mud weight . . . Bentonite slurry</u> <u>10 % Bentonite . . . Bentonite-cement grout</u> <u>150</u> Ft ³ volume added for any of the above How installed: <u>Tremie</u> <u>Tremie pumped</u> <u>Gravity</u>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Bentonite seal: <u>Bentonite granules</u> <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <u>BENTONITE POWDER</u> <u>Other</u>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>DUAL WALL</u> Other <input type="checkbox"/> _____	7. Fine sand material: Manufacturer, product name and type Volume added _____ ft ³
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99	8. Filter pack material: Manufacturer, product name and type <u>COLORADO SILICA SANDS</u> Volume added <u>16</u> ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	9. Well casing: <u>Flush threaded PVC schedule 40</u> <u>Flush threaded PVC schedule 30</u> <u>Other</u>
Describe _____	10. Screen material: <u>PVC SCH 40</u> Screen type: <u>Factory cut</u> <u>Continuous slot</u> <u>Other</u>
17. Source of water (attach analysis): <u>PRODUCTION WELL #2</u>	Manufacturer <u>TIMCO</u> Slot size: <u>0.9</u> Slotted length: <u>10</u>
E. Bentonite seal, top <u>627.6</u> ft. MSL or <u>220.0</u> ft.	11. Backfill material (below filter pack): <u>None</u> <u>Other</u>
F. Fine sand, top _____ ft. MSL or _____ ft.	
G. Filter pack, top <u>617.6</u> ft. MSL or <u>230.0</u> ft.	
H. Well screen, top <u>605.8</u> ft. MSL or <u>241.8</u> ft.	
I. Well screen, bottom <u>595.8</u> ft. MSL or <u>251.8</u> ft.	
J. Filter pack, bottom <u>594.1</u> ft. MSL or <u>253.5</u> ft.	
K. Borehole, bottom <u>594.1</u> ft. MSL or <u>253.5</u> ft.	
L. Borehole, diameter <u>02.0</u> in.	
M. O.D. well casing <u>01.35</u> in.	
N. I.D. well casing <u>01.10</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Th. R. Rustad Firm ABIS - ES

(10-23-91)

ABB-ES

Facility/Project Name BADGER GAP		Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		Well Name PBN-91-0615	
Facility License, Permit or Monitoring Number 44				Well Unique Well Number Date well installed 10/12/7	
Type of well: Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12		Section Location NE 1/4 of 10W, 1/4 of Section 23		Well installed by: (Person's Name and Title) G. RODRIGUEZ	
Distance well is from water source boundary NA ft.		Location of well relative to waste source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		Date well installed 10/12/7	
Is well a Point of Enforcement Sub Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Well installed by: (Person's Name and Title) LAYNE	

A. Protective pipe, top elevation 847.69 ft. MSL		1. Cap and lock? <input checked="" type="checkbox"/> Yes	
B. Well casing, top elevation 847.50 ft. MSL		2. Protective cover pipe: a. Inside diameter: <input type="checkbox"/> C b. Length: <input type="checkbox"/> C c. Material: <input type="checkbox"/> Steel <input type="checkbox"/> Other	
C. Land surface elevation 845.8 ft. MSL		d. Additional protection? <input checked="" type="checkbox"/> Yes If yes, describe: 4 BUCKING POSTS	
D. Surface seal, bottom _____ ft. MSL or _____ ft.		3. Surface seal: <input type="checkbox"/> Bentonite <input type="checkbox"/> Concrete <input type="checkbox"/> Other	
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input checked="" type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock		4. Material between well casing and protective pipe: <input type="checkbox"/> Bentonite <input type="checkbox"/> Annular space seal <input type="checkbox"/> Other	
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		5. Annular space seal: <input type="checkbox"/> Lbs/gal mud weight... Bentonite-sand slurry <input type="checkbox"/> Lbs/gal mud weight... Bentonite slurry <input checked="" type="checkbox"/> 10 % Bentonite... Bentonite-cement grout <input type="checkbox"/> Ft ³ volume added for any of the above How installed: <input type="checkbox"/> Tremie <input type="checkbox"/> Tremie pumped <input type="checkbox"/> Gravity	
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 DUAL WALL Other <input checked="" type="checkbox"/>		6. Bentonite seal: <input type="checkbox"/> Bentonite granules <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets BENTONITE POWDER Other	
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99		7. Fine sand material: Manufacturer, product name and type Volume added 20 ft ³	
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		8. Filter pack material: Manufacturer, product name and type COLORADO SILVER SANDS #4 Volume added 20 ft ³	
Describe _____ 17. Source of water (attach analysis): PRODUCTION WELL #2		9. Well casing: <input type="checkbox"/> Flush threaded PVC schedule 40 <input type="checkbox"/> Flush threaded PVC schedule 30 <input type="checkbox"/> Other	
E. Bentonite seal, top 640.8 ft. MSL or 205.0 ft.		10. Screen material: SCW 80 PVC Screen type: <input type="checkbox"/> Factory cut <input type="checkbox"/> Continuous slot <input type="checkbox"/> Other	
F. Fine sand, top _____ ft. MSL or _____ ft.		Manufacturer MONOFLEX Slot size: _____ Slotted length: _____	
G. Filter pack, top 620.8 ft. MSL or 225.0 ft.		11. Backfill material (below filter pack): <input type="checkbox"/> None <input type="checkbox"/> Other	
H. Well screen, top 604.8 ft. MSL or 241.0 ft.			
I. Well screen, bottom 594.8 ft. MSL or 251.0 ft.			
J. Filter pack, bottom 594.8 ft. MSL or 251.2 ft.			
K. Borehole, bottom 594.8 ft. MSL or 251.0 ft.			
L. Borehole, diameter 0.9.0 in.			
M. O.D. well casing 0.4.5 in.			
N. I.D. well casing 0.3.75 in.			

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Paul R. Smith Firm ABB-ES

Facility/Project Name <u>Bridges Army Ammunition Plant</u>	Grid Location <u>4,501,326.7</u>	Well Name <u>PBN-59-124</u>
Facility License, Permit or Monitoring Number <u>277,055.9</u>	<u>277,055.9</u>	Wis. Unique well Number <u>DNK well Number</u>
Type of Well: Water Table Observation Well <input checked="" type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	Section Location 1/4 of _____ 1/4 of Section _____	Date Well Installed <u>02/02/89</u>
Distance Well Is From Waste/Source boundary <u>NA</u> ft.	T _____ N, R _____ <input type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and firm) <u>Brian Butler / E.C. Jordan Co.</u>
Is Well A Point of Enforcement Site Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location of Well Relative to Waste/Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation <u>855.21</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>855.66</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6.0</u> in. b. Length: <u>2.0</u> ft. c. Material: <u>Steel</u> <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/> --
C. Land surface elevation <u>852.6</u> ft. MSL	d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>4 bucking ribs</u>
D. Surface seal, bottom _____ ft. MSL or _____ ft.	3. Surface seal: <u>Grout</u> Bentonite <input type="checkbox"/> 30 Concrete <input type="checkbox"/> 01 Other <input checked="" type="checkbox"/> --
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	4. Material between well casing and protective pipe: <u>Grout</u> Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/> -- Other <input checked="" type="checkbox"/> --
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: <u>Grout</u> Granular Bentonite <input type="checkbox"/> 33 Lbs/gal mud weight _____ Bentonite-sand slurry <input type="checkbox"/> 35 Lbs/gal mud weight _____ Bentonite slurry <input type="checkbox"/> 31 <u>5</u> % Bentonite _____ Bentonite-cement grout <input checked="" type="checkbox"/> 50 <u>± 800</u> gal volume added for any of the above How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 03
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/> --	6. Bentonite seal: <u>Grout</u> Bentonite granules <input type="checkbox"/> 33 <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 32 Other <input type="checkbox"/> --
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	7. Fine sand material: <u>NA</u> Volume added <u>NA</u> ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8. Filter pack material: <u>Red Flush, Silver Filter Sand</u> Volume added <u>± 24</u> ft ³
Describe _____	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 23 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 24 Other <input type="checkbox"/> --
17. Source of water (attach analysis): <u>PW #2</u>	10. Screen material: <u>Schedule 80 PVC</u> Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> -- Manufacturer <u>Tinco</u> Slot size: <u>0.010</u> in. Slotted length: <u>20.0</u> ft.
E. Bentonite seal, top <u>281.2</u> ft. MSL or <u>20.9</u> ft.	11. Backfill material (below filter pack): <u>Native Soil</u> None <input type="checkbox"/> -- Other <input checked="" type="checkbox"/> --
F. Fine sand, top <u>NA</u> ft. MSL or <u>NA</u> ft.	
G. Filter pack, top <u>226.5</u> ft. MSL or <u>26.1</u> ft.	
H. Well screen, top <u>221.9</u> ft. MSL or <u>80.7</u> ft.	
I. Well screen, bottom <u>251.9</u> ft. MSL or <u>100.7</u> ft.	
J. Filter pack, bottom <u>254.6</u> ft. MSL or <u>98.0</u> ft.	
K. Borehole, bottom <u>242.6</u> ft. MSL or <u>105.0</u> ft.	
L. Borehole, diameter <u>9.5</u> in.	
M. O.D. well casing <u>4.5</u> in.	
N. I.D. well casing <u>4.0</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [Signature] Firm E.C. Jordan Co.

Please complete and return both sides of this form as required by chs. 144, 147, and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a fine of not less than \$10, nor more than \$5,000 for each day of violation. In accordance with ch. 160, Wis. Stats., failure to file this form may result in a fine of not less than \$10, nor more than \$5,000 for each day of violation.

Facility/Project Name <u>Bader Army Ammunition Plant</u>	Grid Location <u>4, 901, 365.5</u> <u>277, 059.5</u> <input checked="" type="checkbox"/> N <input type="checkbox"/> S <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Name <u>PBW-89-12C</u>
Facility License, Permit or Monitoring Number		Wis. Unique Well Number <u>UNK Well No.</u>
Type of Well: Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input checked="" type="checkbox"/> 12	Section Location <u>1/4 of 1/4 of Section</u>	Date Well Installed <u>6/4/89</u>
Distance Well is From Waste Source Boundary <u>NA</u> ft.	T <u> </u> N <u> </u> R <u> </u> <input type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and Firm) <u>Jim Buss / E.C. Jordan Co.</u>
Is Well A Point of Enforcement Site Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location of Well Relative to Waste Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation <u>856.33</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>856.04</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6</u> b. Length: <u>12</u> c. Material: <u>Steel</u> <input checked="" type="checkbox"/> <u>Other</u> <input type="checkbox"/>
C. Land surface elevation <u>852.6</u> ft. MSL	d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>4 backing rods</u>
D. Surface seal, bottom <u> </u> ft. MSL or <u> </u> ft.	3. Surface seal: <u>Grout</u> <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Concrete <input type="checkbox"/> Other <input type="checkbox"/>
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	4. Material between well casing and protective pipe: <u>Grout</u> <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Armular space seal <input type="checkbox"/> Other <input type="checkbox"/>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Armular space seal: <u>Grout</u> <input checked="" type="checkbox"/> Bentonite <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Lbs/gal mud weight <u> </u> Bentonite-sand slurry Lbs/gal mud weight <u> </u> Bentonite slurry <u>5</u> % Bentonite <u> </u> Bentonite-cement grout <input checked="" type="checkbox"/> <u>300 gal</u> volume added for any of the above How installed: <u> </u> Tremie <input type="checkbox"/> Tremie pumped <input checked="" type="checkbox"/> Gravity <input type="checkbox"/>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>Dead Well</u> <input checked="" type="checkbox"/> Other <input type="checkbox"/>	6. Bentonite seal: <u> </u> Bentonite granules <input type="checkbox"/> <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> Other <input type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input checked="" type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99	7. Fine sand material: <u>NA</u> Manufacturer, product name and mesh Volume added <u>NA</u> ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8. Filter pack material: <u>Red Flint, Silica Filter Sand</u> Manufacturer, product name and mesh Volume added <u>1.5</u> ft ³
Describe <u> </u>	9. Well casing: <u> </u> Flush threaded PVC schedule 40 <input type="checkbox"/> <u> </u> Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> Other <input type="checkbox"/>
17. Source of water (attach analysis): <u>PW #2</u>	10. Screen material: <u>Schedule 80 OX</u> Screen type: <u> </u> Factory cut <input checked="" type="checkbox"/> <u> </u> Continuous slot <input type="checkbox"/> Other <input type="checkbox"/> Manufacturer <u>Timco</u> Slot size: <u>0.010</u> Slotted length: <u>5.0</u>
E. Bentonite seal, top <u>238.6</u> ft. MSL or <u>114.0</u> ft.	11. Backfill material (below filter pack): <u> </u> None <input type="checkbox"/> <u> </u> Other <input checked="" type="checkbox"/>
F. Fine sand, top <u>NA</u> ft. MSL or <u>NA</u> ft.	
G. Filter pack, top <u>228.6</u> ft. MSL or <u>124.0</u> ft.	
H. Well screen, top <u>219.6</u> ft. MSL or <u>133.0</u> ft.	
I. Well screen, bottom <u>214.6</u> ft. MSL or <u>138.0</u> ft.	
J. Filter pack, bottom <u>214.6</u> ft. MSL or <u>138.0</u> ft.	
K. Borehole, bottom <u>212.6</u> ft. MSL or <u>140.0</u> ft.	
L. Borehole, diameter <u>9.5</u> in.	
M. O.D. well casing <u>4.5</u> in.	
N. I.D. well casing <u>4.0</u> in.	

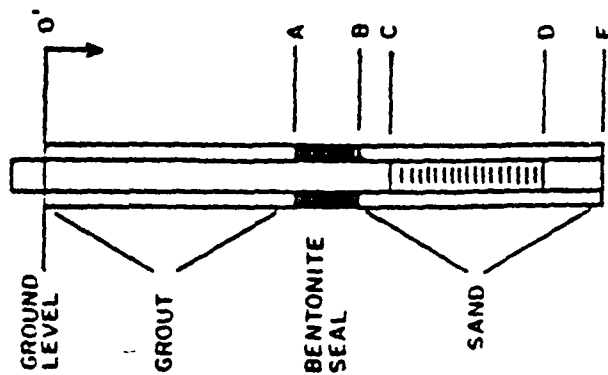
I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [Signature] Firm E.C. Jordan Co.

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance

US ARMY ENVIRONMENTAL HYGIENE AGENCY
GROUNDWATER MONITOR WELL SUMMARY

PROJECT Badger AAP DATE 9 Sep - 9 Oct 85



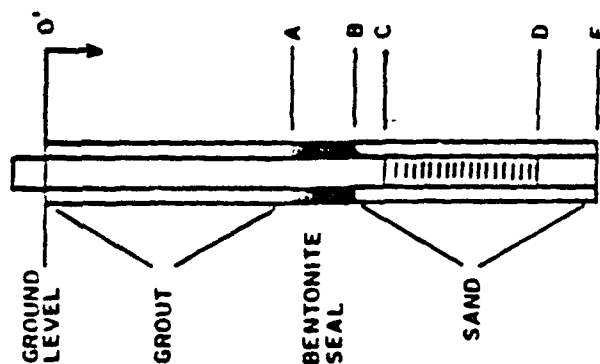
- A - TOP OF BENTONITE SEAL
- B - TOP OF SAND
- C - TOP OF WELL SCREEN
- D - TOP OF SEDIMENT TRAP
- E - TOTAL WELL DEPTH

All measurements in feet except as noted

WELL NO.	PBM-85-01	PBM-85-02	PBM-85-03	PBM-85-04	PBM-85-05	PBM-85-06
A	36.0	31.0	63.0	88.0	77.0	67.0
B	42.0*	40.0*	70.0*	94.0	83.0	73.0
C	108.4	88.9	135.7	112.0	94.9	85.2
D	117.4	97.9	144.7	121.0	103.9	94.2
E	118.4	98.9	145.7	122.0	104.9	95.2
GROUT THICKNESS	36.0	31.0	63.0	88.0	77.0	67.0
BENTONITE SEAL THICKNESS	6.0	9.0	7.0	6.0	6.0	6.0
LENGTH OF STEEL STANDPIPE	3.9	3.3	3.4	3.7	3.6	3.3
LENGTH OF SCREEN	9.0	9.0	9.0	9.0	9.0	9.0
LENGTH OF SEDIMENT TRAP	1.0	1.0	1.0	1.0	1.0	1.0
SCREEN SLOT SIZE (IN)	.010	.010	.010	.010	.010	.010
Water Level from Top Steel Casing	90.5	77.0	114.2	95.9	94.1	79.5
Water Level from Ground Surface	86.6	73.7	110.8	92.2	90.5	76.2
Elevation Top Steel Casing	861.72	847.80	884.75	865.74	863.23	846.78
REMARKS	*Gravel and cobbles collapsed into the borehole					

US ARMY ENVIRONMENTAL HYGIENE AGENCY
GROUNDWATER MONITOR WELL SUMMARY

PROJECT BADGER AAP DATE 9 Sep - 9 Oct 85



A - TOP OF BENTONITE SEAL
B - TOP OF SAND
C - TOP OF WELL SCREEN
D - TOP OF SEDIMENT TRAP
E - TOTAL WELL DEPTH

All measurements in feet except as noted

WELL NO.	PBN-85-01A	PBN-85-02A	PBN-85-03A	PBN-85-04A				
A	35.0	60.0	66.0	84.0				
B	41.0*	66.0	72.0	90.0				
C	108.7	125.1	81.7	99.5				
D	117.7	134.1	90.7	108.5				
E	118.7	135.1	91.7	109.5				
GROUT THICKNESS	35.0	60.0	66.0	84.0				
BENTONITE SEAL THICKNESS	6.0	6.0	6.0	6.0				
LENGTH OF STEEL STANDPIPE	3.6	3.4	3.3	3.3				
LENGTH OF SCREEN	9.0	9.0	9.0	9.0				
LENGTH OF SEDIMENT TRAP SCREEN	1.0	1.0	1.0	1.0				
SLOT SIZE (IN)	.010	.010	.010	.010				
Water level from Top Steel Casing	102.4	127.5	79.2	90.1				
Water level from Ground Surface	98.8	124.1	75.9	86.8				
Elevation Top Steel Casing	823.11	827.60	832.76	838.32				
REMARKS	*Gravel and cobbles collapsed in borehole							

ABB Environmental Services, Inc.

MONITORING WELL CONSTRUCTION FORM

Facility/Project Name BADGER AAP		Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S. ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		Well Name PBN-91-12C	
Factory License, Permit or Monitoring Number				Well Unique Well Number	
Type of Well: Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input checked="" type="checkbox"/> 12		Section Location NE 1/4 of Sec 23		Date well installed 10/24/91	
Distance well is from waste source boundary NA ft.		Location of well relative to Waste Source T <input checked="" type="checkbox"/> 10 N <input type="checkbox"/> 3 G <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well installed by: (Person's Name and Firm) LAYNE ENVIRONMENTAL	
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Location of well relative to Waste Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		G. RODRIGUEZ	

A. Protective pipe, top elevation	854.49 ft. MSL	1. Cap and lock?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation	854.42 ft. MSL	2. Protective cover pipe:	
C. Land surface elevation	852.2 ft. MSL	a. Inside diameter:	06 in.
D. Surface seal, bottom	_____ ft. MSL or _____ ft.	b. Length:	06 in.
12. USCS classification of soil near screen:		c. Material:	Steel <input checked="" type="checkbox"/> Other <input type="checkbox"/>
<input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input checked="" type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock		d. Additional protection?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, describe: BUCKING PESTS GRAV. FILL	
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 DUAL WALL Other <input checked="" type="checkbox"/>		3. Surface seal:	Bentonite <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Other <input type="checkbox"/>
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99		4. Material between well casing and protective pipe:	Bentonite <input type="checkbox"/> Annular space seal <input checked="" type="checkbox"/> Other <input type="checkbox"/>
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		5. Annular space seal:	Granular Bentonite <input type="checkbox"/> Lbs/gal mud weight ... Bentonite sand slurry <input type="checkbox"/> Lbs/gal mud weight ... Bentonite slurry <input type="checkbox"/> 10 % Bentonite ... Bentonite-cement grout <input checked="" type="checkbox"/> 250 Ft ³ volume added for any of the above
Describe _____		How installed:	Tremie <input type="checkbox"/> Tremie pumped <input type="checkbox"/> Gravity <input checked="" type="checkbox"/>
17. Source of water (attach analysis): PRODUCTION WELL # 2		6. Bentonite seal:	Bentonite granules <input type="checkbox"/> <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> BENTONITE POWDER Other <input checked="" type="checkbox"/>
E. Bentonite seal, top	722.2 ft. MSL or 130.0 ft.	7. Fine sand material:	Manufacturer, product name and mesh size NONE
F. Fine sand, top	_____ ft. MSL or _____ ft.	Volume added	_____ ft ³
G. Filter pack, top	702.2 ft. MSL or 150.0 ft.	8. Filter pack material:	Manufacturer, product name and mesh size CSSI SILICA SAND #4
H. Well screen, top	678.8 ft. MSL or 173.4 ft.	Volume added	10 ft ³
I. Well screen, bottom	668.8 ft. MSL or 183.4 ft.	9. Well casing:	Flush threaded PVC schedule 40 <input type="checkbox"/> Flush threaded PVC schedule 30 <input checked="" type="checkbox"/> Other <input type="checkbox"/>
J. Filter pack, bottom	668.8 ft. MSL or 183.4 ft.	10. Screen material:	SCH 80 PVC 4"
K. Borehole, bottom	652.2 ft. MSL or 200.0 ft.	Screen type:	Factory cut <input checked="" type="checkbox"/> Continuous slot <input type="checkbox"/> Other <input type="checkbox"/>
L. Borehole, diameter	09.0 in.	Manufacturer	MONOFLEX
M. O.D. well casing	04.25 in.	Slot size:	0.010 in.
N. I.D. well casing	03.75 in.	Slot length:	10.0 in.
		11. Backfill material (below filter pack):	None <input type="checkbox"/> SURROUNDING SEDIMENT Other <input checked="" type="checkbox"/>

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Paul R. Kuntz

Firm

ABB-ES

Facility/Project Name BADGER AAP		Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> E. <input type="checkbox"/> S. <input type="checkbox"/> W.		Well Name PBN-91-12D	
Facility License, Permit or Monitoring Number _____		Section Location NE 1/4 of NW 1/4 of Section 23		Date well installed 10/16/91	
Type of well: Water Table Observation Well <input checked="" type="checkbox"/> Piezometer <input checked="" type="checkbox"/>		Distance well is from waste/source boundary NA ft.		Well installed by: (person's name and firm) G. RODRIGUEZ	
Is well a point of enforcement? Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Location of well relative to waste/source: <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input checked="" type="checkbox"/> Downgradient <input type="checkbox"/> Not Known		LAYNE	

A. Protective pipe top elevation **853.48** ft. MSL

B. Well casing top elevation **853.29** ft. MSL

C. Land surface elevation **851.2** ft. MSL

D. Surface seal bottom _____ ft. MSL or _____ ft.

12. USCS classification of soil near screen:
☐ GP ☐ GM ☐ GC ☐ GW ☒ SW ☐ SP
☐ SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH
☐ Bedrock

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
 Hollow Stem Auger ☐ 41
DUAL WALL Other ☒ _____

15. Drilling fluid used: Water ☒ 02 Air ☒ 01
 Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis):
PRODUCTION WELL #2

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
 a. Inside diameter: **0.6**
 b. Length: **0.6**
 c. Material: _____
 d. Additional protection? ☒ Yes ☐ No
 If yes, describe: **4 BUCKING POSTS**

3. Surface seal: _____
 Bentonite ☐
 Concrete ☐
 Other ☐

4. Material between well casing and protective pipe:
 Bentonite ☐
 Annular space seal ☐
 Other ☐

5. Annular space seal:
 Granular Bentonite ☐
 _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐
 _____ Lbs/gal mud weight ... Bentonite slurry ☐
10 % Bentonite ... Bentonite-cement grout ☒
400 Ft³ volume added for any of the above
 How installed: Tremie ☐
 Tremie pumped ☐
 Gravity ☒

6. Bentonite seal: _____
 Bentonite granules ☐
☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐
BENTONITE POWDER Other ☒

7. Fine sand material: Manufacturer, product name and mesh
 Volume added _____ ft³

8. Filter pack material: Manufacturer, product name and mesh
COLORADO SILICA SAND #4
 Volume added **26** ft³

9. Well casing: _____
 Flush threaded PVC schedule 40 ☐
 Flush threaded PVC schedule 30 ☒
 Other ☐

10. Screen material: **PVC 5CM 80**
 Screen type: _____
 Factory cut ☒
 Continuous slot ☐
 Other ☐

Manufacturer: **MONOLIX**
 Slot size: **0.010**
 Slotted length: **10.0**

11. Backfill material (below filter pack): _____
 None ☒
 Other ☐

E. Bentonite seal top **674.2** ft. MSL or **177.0** ft.

F. Fine sand top _____ ft. MSL or _____ ft.

G. Filter pack top **654.2** ft. MSL or **197.0** ft.

H. Well screen top **630.2** ft. MSL or **221.0** ft.

I. Well screen bottom **620.2** ft. MSL or **231.0** ft.

J. Filter pack bottom **620.2** ft. MSL or **231.0** ft.

K. Borehole bottom **620.2** ft. MSL or **231.0** ft.

L. Borehole diameter **09.0** in.

M. O.D. well casing **04.25** in.

N. I.D. well casing **03.75** in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Paul R. Rostert Firm ABB-ES

Facility/Project Name <u>Schaefer Army Ammunition Plant</u>	Grid Location <u>41, 501, 794.0</u> <u>296, 910.3</u>	Well Name <u>FBM-89-07</u>
Facility License, Permit or Monitoring Number	<u>296, 910.3</u>	Wis. Unique Well Number <u> </u> LNK Well Number <u> </u>
Type of Well: Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	Section Location <u> </u> 1/4 of <u> </u> 1/4 of Section <u> </u>	Date Well Installed <u>03/03/89</u>
Distance Well Is From Waste/Source Boundary <u>NA</u> ft.	T <u> </u> N <u> </u> R <u> </u> <input type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and Firm) <u>Bruce Butler / E.C. Jordan Co.</u>
Is Well A Point of Enforcement Sta. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location of Well Relative to Waste/Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation <u>849.56</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>849.36</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6.0</u> in. b. Length: <u>2.0</u> ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/> <u> </u>
C. Land surface elevation <u>846.6</u> ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: <u>4 bucking pins</u>
D. Surface seal, bottom <u> </u> ft. MSL or <u> </u> ft.	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input type="checkbox"/> 01 Other <input checked="" type="checkbox"/> <u>Grout</u>
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/> <u>Grout</u> Other <input checked="" type="checkbox"/> <u> </u>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: Granular Bentonite <input type="checkbox"/> 33 Lbs/gal mud weight ... Bentonite-sand slurry <input type="checkbox"/> 35 Lbs/gal mud weight ... Bentonite slurry <input type="checkbox"/> 31 <u>5</u> % Bentonite ... Bentonite-cement grout <input checked="" type="checkbox"/> 50 <u>+400</u> <u>gal/ft</u> volume added for any of the above
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/> <u> </u>	How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 03
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	6. Bentonite seal: Bentonite granules <input type="checkbox"/> 33 <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input checked="" type="checkbox"/> 32 Other <input type="checkbox"/> <u> </u>
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7. Fine sand material: Manufacturer, product name and mesh size <u>NA</u> Volume added <u>NA</u> ft ³
Describe <u> </u>	8. Filter pack material: Manufacturer, product name and mesh size <u>Reddish silty sand</u> Volume added <u>2.9</u> ft ³
17. Source of water (attach analysis): <u>PW #2</u>	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 23 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 24 Other <input type="checkbox"/> <u> </u>
E. Bentonite seal, top <u>784.6</u> ft. MSL or <u>62.0</u> ft.	10. Screen material: <u>Schedule 80 PVC</u> Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> <u> </u>
F. Fine sand, top <u>NA</u> ft. MSL or <u>NA</u> ft.	Manufacturer <u>Tiwo</u> Slot size: <u>0.020</u> in. Slotted length: <u>40.6</u> ft.
G. Filter pack, top <u>780.1</u> ft. MSL or <u>66.5</u> ft.	11. Backfill material (below filter pack): None <input type="checkbox"/> <u>Reddish loess</u> Other <input checked="" type="checkbox"/>
H. Well screen, top <u>764.1</u> ft. MSL or <u>92.5</u> ft.	
I. Well screen, bottom <u>754.1</u> ft. MSL or <u>92.5</u> ft.	
J. Filter pack, bottom <u>754.1</u> ft. MSL or <u>92.5</u> ft.	
K. Borehole, bottom <u>751.6</u> ft. MSL or <u>95.0</u> ft.	
L. Borehole, diameter <u>9.5</u> in.	
M. O.D. well casing <u>9.5</u> in.	
N. I.D. well casing <u>4.0</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [Signature] Firm E.C. Jordan Co.

Case complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code, in accordance with 144, Wis. Stats., failure to file this form may result in a fine of not less than \$10, nor more than \$5,000 for each day of violation, in accordance with 144, Wis. Stats.

Facility/Project Name <u>Sucker Army Ammunition Plant</u>	Grid Location <u>4, 801, 952.3</u>	Well Name <u>PBN-89-0415</u>
Facility License, Permit or Monitoring Number <u>277,000.5</u>	<u>7</u> ft <input checked="" type="checkbox"/> N. <input type="checkbox"/> S. <u>4</u> ft <input checked="" type="checkbox"/> E. <input type="checkbox"/> W.	Wis. Unique Well Number <u>DNK well</u>
Type of Well: Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input checked="" type="checkbox"/> 12	Section Location <u>1/4 of 1/4 of Section</u>	Date Well Installed <u>03/10/80</u>
Distance Well is from Waste/Source boundary <u>NA</u> ft.	T <u> </u> N <u> </u> R <u> </u> <input type="checkbox"/> E <input type="checkbox"/> W	Well installed by: (Person's Name and Firm) <u>P. Bolmer / E.C. Jordan Co.</u>
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location of Well Relative to Waste/Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation <u>859.40</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>859.23</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6</u> b. Length: <u>2</u> c. Material: <u>Steel</u> <input checked="" type="checkbox"/> Other <input type="checkbox"/>
C. Land surface elevation <u>856.9</u> ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: <u>4 backing fabric</u>
D. Surface seal, bottom <u> </u> ft. MSL or <u> </u> ft.	3. Surface seal: <u>Grout</u> Bentonite <input type="checkbox"/> Concrete <input type="checkbox"/> Other <input type="checkbox"/>
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	4. Material between well casing and protective pipe: <u>Grout</u> Bentonite <input type="checkbox"/> Annular space seal <input type="checkbox"/> Other <input type="checkbox"/>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: <u>Grout</u> Granular Bentonite <input type="checkbox"/> Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> % Bentonite . . . Bentonite-cement grout <input type="checkbox"/> * <u>310</u> gal volume added for any of the above How installed: Tremie <input type="checkbox"/> Tremie pumped <input checked="" type="checkbox"/> Gravity <input type="checkbox"/>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/> <u> </u>	6. Bentonite seal: Bentonite granules <input type="checkbox"/> <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> <u>Bentonite Slurry</u> Other <input checked="" type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	7. Fine sand material: Manufacturer, product name and met <u>NA</u> Volume added <u>NA</u> ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8. Filter pack material: Manufacturer, product name and met <u>Red Clay Silica Sand</u> Volume added <u>2.1</u> ft ³
Describe <u> </u>	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> Flush threaded PVC schedule 50 <input checked="" type="checkbox"/> Other <input type="checkbox"/>
17. Source of water (attach analysis): <u>PW #2</u>	10. Screen material: <u>Schedule 80 PVC</u> Screen type: Factory cut <input checked="" type="checkbox"/> Continuous slot <input type="checkbox"/> Other <input type="checkbox"/> Manufacturer <u>11w-60</u> Slot size: <u>0.01</u> Slotted length: <u>5</u>
E. Bentonite seal, top <u>737.1</u> ft. MSL or <u>119.8</u> ft.	11. Backfill material (below filter pack): <u>Native Soil</u> None <input type="checkbox"/> Other <input type="checkbox"/>
F. Fine sand, top <u>NA</u> ft. MSL or <u>NA</u> ft.	
G. Filter pack, top <u>732.1</u> ft. MSL or <u>124.8</u> ft.	
H. Well screen, top <u>717.9</u> ft. MSL or <u>139.0</u> ft.	
I. Well screen, bottom <u>712.9</u> ft. MSL or <u>144.0</u> ft.	
J. Filter pack, bottom <u>712.9</u> ft. MSL or <u>144.0</u> ft.	
K. Borehole, bottom <u>706.9</u> ft. MSL or <u>150.0</u> ft.	
L. Borehole, diameter <u>9.5</u> in.	
M. O.D. well casing <u>9.5</u> in.	
N. I.D. well casing <u>9.0</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature P. Bolmer Firm E.C. Jordan Co.

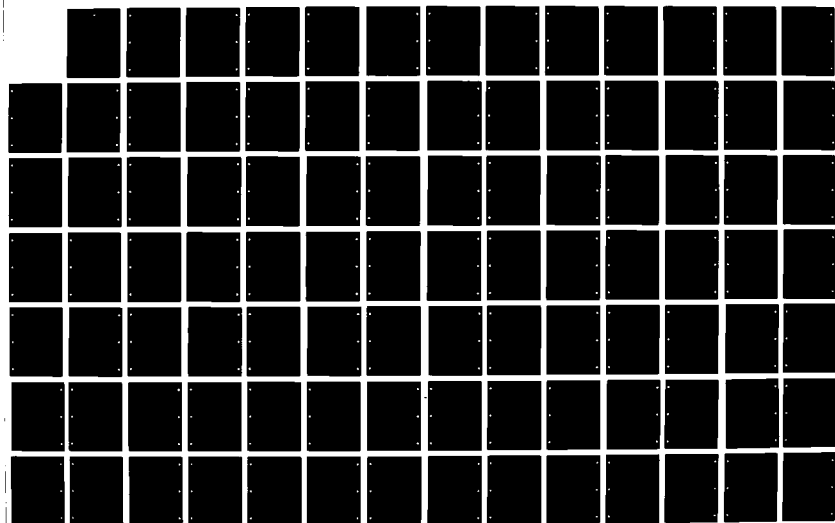
Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5,000 for each day of violation. In accordance

AD-A260 438

REMEDIAL INVESTIGATION BADGER ARMY AMMUNITION PLANT
BARABOO WISCONSIN VOLUME 3 APPENDICES G THROUGH J(U)
ABB ENVIRONMENTAL PORTLAND ME 1991 XA-USATHAMA
DAAA15-91-D-0008

9/12

UNCLASSIFIED



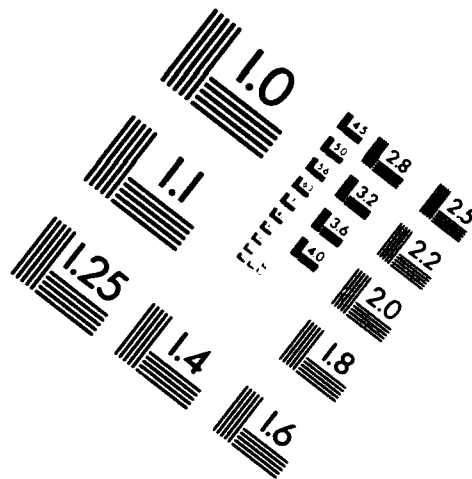
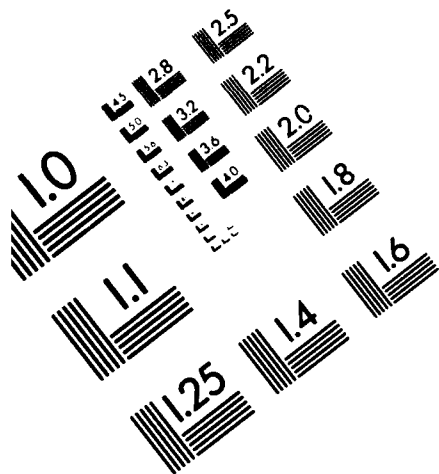


AIM

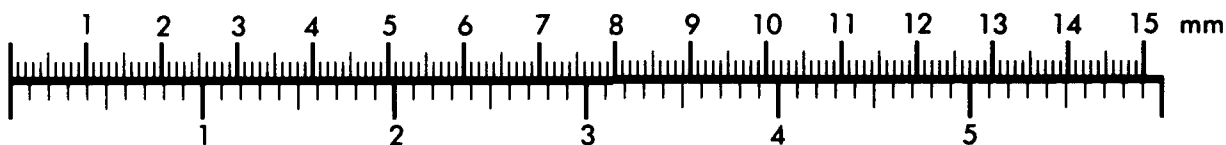
Association for Information and Image Management

1100 Wayne Avenue, Suite 1100
Silver Spring, Maryland 20910

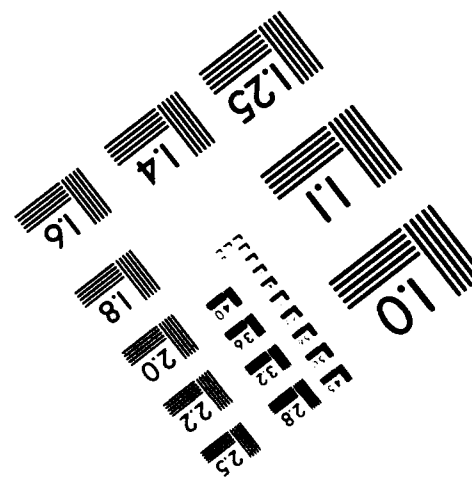
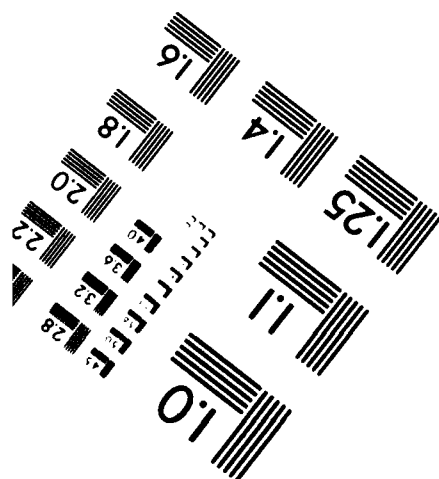
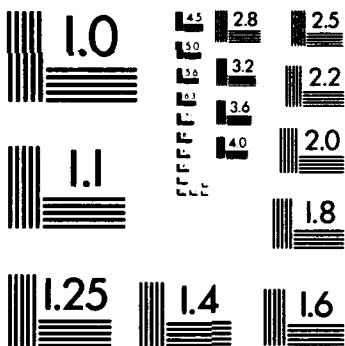
301/587-8202



Centimeter



Inches



MANUFACTURED TO AIM STANDARDS
BY APPLIED IMAGE, INC.

Facility/Project Name <u>Bader Army Ammunition Plant</u>	Grid Location <u>4,801,775.2</u>	Well Name <u>PBW-89-04C</u>
Facility License/Permit or Monitoring Number	<u>277,150.6</u>	Wis. Unique Well Number DNR Well Number
Type of Well: Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input checked="" type="checkbox"/> 12	Section Location 1/4 of 1/4 of Section T <u> </u> N <u> </u> R <u> </u> <input type="checkbox"/> E <input type="checkbox"/> W	Date Well Installed <u>6/1/89</u>
Distance Well is from Waste/Source boundary <u>NA</u> ft.	Location of Well Relative to Waste/Source <input type="checkbox"/> Upgradient <input type="checkbox"/> Sidegradient <input type="checkbox"/> Downgradient <input type="checkbox"/> Not Known	Well Installed By: (Person's Name and Firm) <u>J. Buss / E.C. Jordan Co</u>
Is Well A Point of Enforcement Sta. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

A. Protective pipe, top elevation <u>862.51</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>859.70</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6.0</u> in. b. Length: <u>2.0</u> ft. c. Material: <u>Steel</u> <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/> <u> </u>
C. Land surface elevation <u>852.7</u> ft. MSL	d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: <u>4 backing pipes</u>
D. Surface seal, bottom <u> </u> ft. MSL or <u> </u> ft.	3. Surface seal: <u>Grout</u> Bentonite <input type="checkbox"/> 30 Concrete <input type="checkbox"/> 01 Other <input checked="" type="checkbox"/> <u> </u>
12. USCS classification of soil near screen: <input type="checkbox"/> GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock	4. Material between well casing and protective pipe: <u>Grout</u> Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/> <u> </u> Other <input checked="" type="checkbox"/> <u> </u>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: Granular Bentonite <input type="checkbox"/> 33 Lbs/gal mud weight <u> </u> Bentonite-sand slurry <input type="checkbox"/> 35 Lbs/gal mud weight <u> </u> Bentonite slurry <input type="checkbox"/> 31 <u>5</u> % Bentonite <u> </u> Bentonite-cement grout <input checked="" type="checkbox"/> 50 <u>400 gal</u> volume added for any of the above How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 03
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>Shed Well</u> Other <input checked="" type="checkbox"/> <u> </u>	6. Bentonite seal: Bentonite granules <input type="checkbox"/> 30 <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 32 <u>Bentonite Slurry</u> Other <input checked="" type="checkbox"/> <u> </u>
15. Drilling fluid used: Water <input checked="" type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input type="checkbox"/> 99	7. Fine sand material: Manufacturer, product name and mesh size <u>NA</u> Volume added <u>NA</u> ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8. Filter pack material: Manufacturer, product name and mesh size <u>Red Shell, Silica sand</u> Volume added <u>228</u> ft ³
Describe <u> </u>	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 23 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 24 Other <input type="checkbox"/> <u> </u>
17. Source of water (attach analysis): <u>PW #2</u>	10. Screen material: <u>Schedule 80 pipe</u> Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> <u> </u> Manufacturer <u>Titus</u> Slot size: <u>0.010</u> in. Slotted length: <u>5.0</u> ft.
E. Bentonite seal, top <u>712.2</u> ft. MSL or <u>140.0</u> ft.	11. Backfill material (below filter pack): None <input type="checkbox"/> <u> </u> Other <input checked="" type="checkbox"/> <u> </u>
F. Fine sand, top <u>NA</u> ft. MSL or <u>NA</u> ft.	
G. Filter pack, top <u>692.2</u> ft. MSL or <u>165.0</u> ft.	
H. Well screen, top <u>682.2</u> ft. MSL or <u>175.5</u> ft.	
I. Well screen, bottom <u>672.2</u> ft. MSL or <u>180.5</u> ft.	
J. Filter pack, bottom <u>662.2</u> ft. MSL or <u>190.0</u> ft.	
K. Borehole, bottom <u>662.2</u> ft. MSL or <u>190.0</u> ft.	
L. Borehole, diameter <u>4.5</u> in.	
M. O.D. well casing <u>4.5</u> in.	
N. I.D. well casing <u>4.0</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Robert Buss

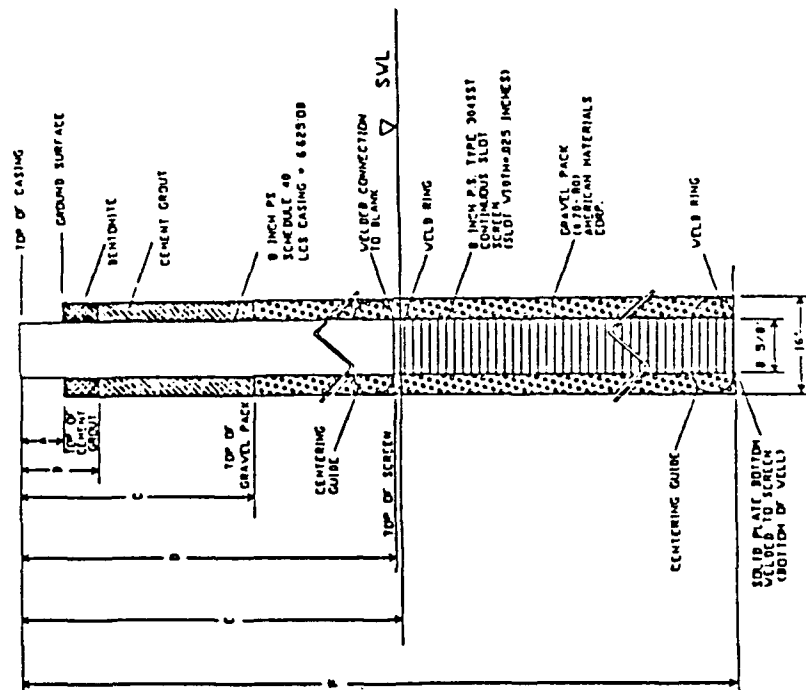
Firm E.C. Jordan Co

EXTRACTION WELL DETAIL

(BCW-3)

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(FEET)	DIMENSIONS (FT)	PMT SOURCE CONTROL WELL 1	BOUNDARY CONTROL WELL 2	BOUNDARY CONTROL WELL 3	850

- DIMENSIONS INDICATE DISTANCE IN FEET FROM THE TDC TO THE REFERENCE POINT DEPICTED ON THE FIGURE.
- TDC AND STATIC WATER LEVEL ELEVATIONS WERE ACQUIRED FROM TOPOGRAPHIC AND WATER LEVEL CONTROL POINTS. DIMENSIONS ARE SUBJECT TO CHANGE BASED UPON ACTUAL MEASUREMENTS ACQUIRED IN THE FIELD.
- SCREEN AND GRAVEL PACK DESIGN ARE SUBJECT TO CHANGE BASED ON FIELD DATA ACQUIRED DURING DRILLING.
- SCREEN AND CASING JOINTS WILL BE WELDED TOGETHER.



BAROMETRIC PRESSURE DATA

BAROMETRIC DATA FROM THE NATIONAL
WEATHER SERVICE IN MADISON, WI

ON SITE
BAROMETRIC PROBE DATA

ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)	ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)
52	14.69234	0	14.077
109	14.70685	120	14.075
170	14.70685	240	14.040
230	14.72135	360	14.020
290	14.72135	480	14.029
353	14.73586	600	14.046
409	14.75036	720	14.105
470	14.75036	840	14.118
591	14.73586	960	14.131
653	14.72135	1080	14.153
713	14.70685	1200	14.122
771	14.67784	1320	14.075
829	14.64883	1440	14.051
892	14.57631	1560	14.057
1010	14.57631	1680	14.051
1071	14.56181	1800	14.036
1131	14.54731	1920	14.046
1190	14.54731	2040	14.027
1311	14.51830	2160	14.016
1430	14.48929	2280	14.049
1551	14.46028	2400	14.044
1670	14.44578	2520	14.042
1790	14.40227	2640	14.003
1910	14.38776	2760	13.964
2031	14.35876	2880	13.925
2151	14.32975	3000	13.882
2274	14.21372	3120	13.834
2330	14.17021	3240	13.786
2449	14.05418	3360	13.758
2570	13.93815	3480	13.763
2632	13.88013	3600	13.817
2697	13.82212	3720	13.914
2750	13.74960	3840	14.001
2810	13.70609	3960	14.064
2872	13.60456	4080	14.096
2934	13.50303	4200	14.140
2992	13.47403	4320	14.163
3051	13.47403	4440	14.144
3171	13.56105	4560	14.127
3292	13.74960	4680	14.103
3413	14.01067	4800	14.066
3532	14.25723	4920	14.023
3652	14.41677	5040	14.005
3770	14.51830	5160	13.986
3890	14.63433	5280	13.984
4011	14.73586	5400	14.051
4129	14.85189	5520	14.094
4249	14.88089	5640	14.429
4369	14.92441	5760	14.085
4490	14.90990	5880	14.070
4610	14.92441	6000	14.044
4731	14.92441	6120	14.020
4849	14.89540	6240	14.027
4971	14.89540	6360	14.033
5092	14.77937	6480	14.046
5210	14.70685	6600	14.033
5329	14.69234	6720	14.051
5448	14.72135	6840	14.066
5569	14.73586	6960	14.053
5690	14.77937	7080	14.012
5810	14.83738	7200	13.973

BAROMETRIC DATA FROM THE NATIONAL
WEATHER SERVICE IN MADISON, WI

ON SITE
BAROMETRIC PROBE DATA

ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)	ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)
5929	14.80837	7320	13.966
6049	14.82288	7440	13.955
6171	14.77937	7560	13.945
6289	14.73586	7680	13.955
6410	14.75036	7800	13.958
6530	14.66334	7920	13.962
6649	14.51830	8040	13.968
6770	14.47479	8160	13.981
6892	14.37326	8280	13.973
7008	14.31525	8400	13.964
7071	14.25723	8520	13.975
7188	14.15570	8640	13.992
7310	14.12670	8760	14.012
7431	14.12670	8880	14.033
7549	14.12670	9000	14.059
7610	14.12670	9120	14.077
7729	14.15570	9240	14.109
7790	14.15570	9360	14.131
7911	14.12670	9480	14.159
8031	14.08318	9600	14.185
8154	14.09769	9720	14.192
8270	14.12670	9840	14.192
8392	14.18471	9960	14.194
8512	14.24273	10080	14.213
8631	14.32975	10200	14.209
8750	14.41677	10320	14.218
8872	14.50380	10440	14.220
8999	14.57631	10560	14.205
9110	14.69234	10680	14.192
9233	14.79387	10800	14.146
9354	14.82288	10920	14.116
9472	14.82288	11520	13.811
9600	14.83738	11640	13.575
9710	14.86639	11760	13.290
9832	14.85189	11880	13.032
10012	14.89540	12000	12.688
10133	14.89540	12120	12.231
10250	14.83738	12240	11.571
10373	14.77937	12360	12.896
10492	14.64883	12480	13.508
10613	14.53280	12600	14.056
10733	14.44578	12720	14.110
10852	14.30074	12840	14.052
10975	14.24273	12960	13.917
11091	14.28624	13080	14.010
11213	14.40227	13200	14.030
11332	14.50380	13320	14.032
11452	14.57631	13440	14.026
11574	14.66334	13560	14.030
11691	14.69234	13680	14.043
11814	14.67784	13800	14.052
11931	14.69234	13920	14.075
12051	14.67784	14040	14.121
12173	14.66334	14160	14.114
12291	14.54731	14280	14.123
12410	14.40227	14400	14.104
12531	14.25723	14520	14.112
12591	14.18471	14640	14.097
12771	14.05418	14760	14.086
12891	14.01067	14880	14.071
13011	13.96715	15000	14.060

BAROMETRIC DATA FROM THE NATIONAL
WEATHER SERVICE IN MADISON, WI

ON SITE
BAROMETRIC PROBE DATA

ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)	ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)
13132	13.96715	15120	14.043
13193	13.98166	15240	14.036
13311	13.98166	15360	14.039
13431	14.05418	15480	14.039
13552	14.11219	15600	14.045
13672	14.17021	15720	14.067
13790	14.12670	15840	14.091
13914	14.18471	15960	14.125
13973	14.18471	16080	14.153
14091	14.21372	16200	14.168
14212	14.21372	16320	14.162
14330	14.18471	16440	14.114
14452	14.15570	16560	14.019
14574	14.09769	16680	13.989
14693	14.03967	16800	14.173
14813	14.03967	16920	14.205
14931	14.01067	17040	14.203
15172	13.93815	17160	14.264
15295	13.96715	17280	14.264
15410	14.05418	17400	14.255
15530	14.18471	17520	14.255
15652	14.31525	17640	14.270
15771	14.38776	17760	14.262
15890	14.46028	17880	14.253
16012	14.53280	18000	14.227
16133	14.54731	18120	14.201
16251	14.53280	18240	14.194
16371	14.53280	18360	14.227
16495	14.54731	18480	14.223
16613	14.50380	18600	14.223
16731	14.44578	18720	14.227
16851	14.47479	18840	14.229
16972	14.53280	18960	14.236
17091	14.54731	19080	14.244
17213	14.57631	19200	14.251
17330	14.57631	19320	14.201
17452	14.56181	19440	14.158
17573	14.53280	19560	14.177
17692	14.48929	19680	14.227
17815	14.44578	19800	14.346
17932	14.43128	19920	14.372
18052	14.35876	20040	14.374
18170	14.28624	20160	14.344
18291	14.30074	20280	14.298
18413	14.34425	20400	14.244
18532	14.40227	20520	14.229
18653	14.46028	20640	14.205
18772	14.51830	20760	14.201
18892	14.57631	20880	14.160
19014	14.60532	21000	14.125
19134	14.64883	21120	14.060
19252	14.72135	21240	14.017
19494	14.76486	21360	13.980
19551	14.75036	21480	13.989
19612	14.72135	21600	14.024
19672	14.72135	21720	14.067
19732	14.70685	21840	14.106
19791	14.67784	21960	14.130
19852	14.70685	22080	14.145
19912	14.70685	22200	14.153
19970	14.69234	22320	14.142

BAROMETRIC DATA FROM THE NATIONAL
WEATHER SERVICE IN MADISON, WI

ON SITE
BAROMETRIC PROBE DATA

ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)	ELAPSED TIME SINCE 11/27/91 @1700HRS	BAROMETRIC PRESSURE (psi)
20034	14.67784	22440	14.110
20090	14.64883	22560	14.166
20150	14.61983	22680	14.223
20210	14.59082	22800	14.223
20272	14.51830	22920	14.231
20333	14.47479	23040	14.205
20392	14.41677	23160	14.175
20414	14.38776	23280	14.160
20453	14.32975	23400	14.156
20513	14.25723	23520	14.160
20571	14.19922	23640	14.151
20631	14.14120	23760	14.052
20691	14.05418	23880	13.952
20728	13.98166	24000	13.952
20751	13.93815	24120	14.026
20810	13.86563	24240	14.093
20870	13.77861	24360	14.117

ANTECEDENT WATER LEVEL DATA

MADGER ARMY AMMUNITION PLANT
 GROUNDWATER MONITORING
 QUANTIFICATION TEST
 DECEMBER 1991
 BP-91-01B,C,D
 PRELIMINARY MONITORING

BPB-91-01B			BPB-91-01C			BPB-91-01D		
LAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)		
0	85.104	765.426	85.120	765.410	85.097	765.433		
60	85.123	765.407	85.138	765.392	85.110	765.420		
120	85.123	765.407	85.132	765.398	85.103	765.427		
180	85.123	765.407	85.151	765.379	85.116	765.414		
240	85.130	765.400	85.157	765.373	85.122	765.408		
300	85.142	765.388	85.170	765.360	85.135	765.395		
360	85.148	765.382	85.176	765.354	85.147	765.383		
420	85.148	765.382	85.176	765.354	85.147	765.383		
480	85.148	765.382	85.183	765.347	85.154	765.376		
540	85.148	765.382	85.176	765.354	85.147	765.383		
600	85.155	765.375	85.183	765.347	85.154	765.376		
660	85.148	765.382	85.176	765.354	85.147	765.383		
720	85.142	765.388	85.164	765.366	85.135	765.395		
780	85.136	765.394	85.170	765.360	85.135	765.395		
840	85.130	765.400	85.157	765.373	85.128	765.402		
900	85.123	765.407	85.151	765.379	85.122	765.408		
960	85.117	765.413	85.138	765.392	85.110	765.420		
1020	85.111	765.419	85.138	765.392	85.103	765.427		
1080	85.130	765.400	85.145	765.385	85.116	765.414		
1140	85.130	765.400	85.138	765.392	85.110	765.420		
1200	85.111	765.419	85.126	765.404	85.097	765.433		
1260	85.117	765.413	85.132	765.398	85.103	765.427		
1320	85.111	765.419	85.120	765.410	85.097	765.433		
1380	85.092	765.438	85.107	765.423	85.084	765.446		
1440	85.054	765.476	85.063	765.467	85.040	765.490		
1500	85.066	765.464	85.082	765.448	85.046	765.484		
1560	85.041	765.489	85.056	765.474	85.027	765.503		
1620	85.041	765.489	85.056	765.474	85.027	765.503		
1680	85.035	765.495	85.050	765.480	85.021	765.509		
1740	85.022	765.508	85.044	765.486	85.008	765.522		
1800	85.029	765.501	85.044	765.486	85.015	765.515		
1860	85.035	765.495	85.056	765.474	85.034	765.496		
1920	85.029	765.501	85.037	765.493	85.015	765.515		
1980	85.029	765.501	85.037	765.493	85.015	765.515		
2040	85.022	765.508	85.037	765.493	85.015	765.515		
2100	85.035	765.495	85.044	765.486	85.021	765.509		
2160	85.029	765.501	85.044	765.486	85.015	765.515		
2220	85.029	765.501	85.044	765.486	85.021	765.509		
2280	85.048	765.482	85.063	765.467	85.040	765.490		
2340	85.041	765.489	85.056	765.474	85.034	765.496		
2400	85.048	765.482	85.063	765.467	85.040	765.490		
2460	85.048	765.482	85.069	765.461	85.046	765.484		
2520	85.060	765.470	85.075	765.455	85.053	765.477		
2580	85.054	765.476	85.069	765.461	85.046	765.484		
2640	85.054	765.476	85.069	765.461	85.046	765.484		
2700	85.066	765.464	85.082	765.448	85.059	765.471		
2760	85.073	765.457	85.088	765.442	85.065	765.465		
2820	85.060	765.470	85.075	765.455	85.053	765.477		
2880	85.048	765.482	85.063	765.467	85.040	765.490		
2940	85.029	765.501	85.050	765.480	85.027	765.503		
3000	85.060	765.470	85.075	765.455	85.046	765.484		
3060	85.048	765.482	85.069	765.461	85.046	765.484		

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-01B,C,D
ANTECEDENT MONITORING

PBP-91-01B			PBP-91-01C			PBP-91-01D	
ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	
3120	85.035	765.495	85.063	765.467	85.040	765.490	
3180	85.048	765.482	85.075	765.455	85.053	765.477	
3240	85.048	765.482	85.075	765.455	85.053	765.477	
3300	85.054	765.476	85.075	765.455	85.053	765.477	
3360	85.035	765.495	85.050	765.480	85.034	765.496	
3420	85.035	765.495	85.056	765.474	85.034	765.496	
3480	85.029	765.501	85.050	765.480	85.027	765.503	
3540	85.022	765.508	85.050	765.480	85.027	765.503	
3600	85.016	765.514	85.037	765.493	85.015	765.515	
3660	85.016	765.514	85.037	765.493	85.015	765.515	
3720	85.010	765.520	85.031	765.499	85.008	765.522	
3780	85.010	765.520	85.031	765.499	85.008	765.522	
3840	84.997	765.533	85.018	765.512	85.002	765.528	
3900	85.003	765.527	85.025	765.505	85.002	765.528	
3960	85.003	765.527	85.031	765.499	85.008	765.522	
4020	84.997	765.533	85.025	765.505	85.002	765.528	
4080	85.003	765.527	85.031	765.499	85.002	765.528	
4140	85.003	765.527	85.031	765.499	85.008	765.522	
4200	85.003	765.527	85.031	765.499	85.008	765.522	
4260	84.997	765.533	85.018	765.512	85.002	765.528	
4320	84.991	765.539	85.018	765.512	84.996	765.534	
4380	85.003	765.527	85.025	765.505	85.008	765.522	
4440	85.022	765.508	85.050	765.480	85.027	765.503	
4500	85.022	765.508	85.050	765.480	85.027	765.503	
4560	85.048	765.482	85.069	765.461	85.046	765.484	
4620	85.054	765.476	85.082	765.448	85.059	765.471	
4680	85.066	765.464	85.101	765.429	85.078	765.452	
4740	85.060	765.470	85.088	765.442	85.065	765.465	
4800	85.073	765.457	85.101	765.429	85.078	765.452	
4860	85.060	765.470	85.088	765.442	85.065	765.465	
4920	85.060	765.470	85.088	765.442	85.065	765.465	
4980	85.054	765.476	85.082	765.448	85.059	765.471	
5040	85.054	765.476	85.088	765.442	85.065	765.465	
5100	85.048	765.482	85.082	765.448	85.065	765.465	
5160	85.041	765.489	85.075	765.455	85.059	765.471	
5220	85.029	765.501	85.056	765.474	85.040	765.490	
5280	85.035	765.495	85.063	765.467	85.046	765.484	
5340	85.029	765.501	85.056	765.474	85.034	765.496	
5400	85.029	765.501	85.056	765.474	85.034	765.496	
5460	85.029	765.501	85.056	765.474	85.040	765.490	
5520	85.016	765.514	85.044	765.486	85.021	765.509	
5580	85.022	765.508	85.050	765.480	85.034	765.496	
5640	85.022	765.508	85.044	765.486	85.027	765.503	
5700	85.010	765.520	85.037	765.493	85.021	765.509	
5760	84.991	765.539	85.025	765.505	85.002	765.528	
5820	84.997	765.533	85.025	765.505	85.008	765.522	
5880	84.991	765.539	85.018	765.512	85.002	765.528	
5940	84.984	765.546	85.025	765.505	85.008	765.522	
6000	85.029	765.501	85.044	765.486	85.027	765.503	
6060	85.016	765.514	85.037	765.493	85.021	765.509	
6120	85.022	765.508	85.044	765.486	85.027	765.503	
6180	85.035	765.495	85.050	765.480	85.034	765.496	

LADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 PBP-91-01B,C,D
 PRECEDENT M NG

PBP-91-01B			PBP-91-01C			PBP-91-01D		
ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)		
6240	85.029	765.501	85.044	765.486	85.027	765.503		
6300	85.016	765.514	85.031	765.499	85.015	765.515		
6360	85.029	765.501	85.044	765.486	85.027	765.503		
6420	85.022	765.508	85.037	765.493	85.021	765.509		
6480	85.010	765.520	85.025	765.505	85.008	765.522		
6540	85.003	765.527	85.025	765.505	85.002	765.528		
6600	85.010	765.520	85.025	765.505	85.008	765.522		
6660	85.003	765.527	85.025	765.505	85.008	765.522		
6720	84.991	765.539	85.006	765.524	84.989	765.541		
6780	84.984	765.546	84.999	765.531	84.983	765.547		
6840	84.984	765.546	84.999	765.531	84.983	765.547		
6900	84.984	765.546	84.999	765.531	84.983	765.547		
6960	84.991	765.539	85.012	765.518	84.989	765.541		
7020	84.991	765.539	85.006	765.524	84.989	765.541		
7080	84.991	765.539	85.006	765.524	84.989	765.541		
7140	85.205	765.325	85.164	765.366	85.103	765.427		
7200	85.237	765.293	85.183	765.347	85.122	765.408		
7260	85.016	765.514	85.025	765.505	85.002	765.528		
7320	85.003	765.527	85.018	765.512	84.996	765.534		
7380	84.997	765.533	85.018	765.512	84.996	765.534		
7440	85.003	765.527	85.025	765.505	85.002	765.528		
7500	85.010	765.520	85.031	765.499	85.008	765.522		
7560	85.003	765.527	85.037	765.493	85.015	765.515		
7620	85.010	765.520	85.037	765.493	85.015	765.515		
7680	85.010	765.520	85.044	765.486	85.021	765.509		
7740	85.016	765.514	85.044	765.486	85.027	765.503		
7800	85.022	765.508	85.050	765.480	85.027	765.503		
7860	85.016	765.514	85.050	765.480	85.027	765.503		
7920	85.010	765.520	84.898	765.632	85.021	765.509		
7980	85.016	765.514	84.924	765.606	85.021	765.509		
8040	85.016	765.514	84.917	765.613	85.027	765.503		
8100	85.016	765.514	84.911	765.619	85.021	765.509		
8160	85.010	765.520	84.911	765.619	85.015	765.515		
8220	85.022	765.508	84.930	765.600	85.027	765.503		
8280	85.016	765.514	84.936	765.594	85.021	765.509		
8340	85.022	765.508	84.949	765.581	85.034	765.496		
8400	85.029	765.501	84.961	765.569	85.034	765.496		
8460	85.029	765.501	84.961	765.569	85.034	765.496		
8520	85.029	765.501	84.968	765.562	85.027	765.503		
8580	84.997	765.533	84.968	765.562	85.021	765.509		
8640	84.991	765.539	84.961	765.569	85.015	765.515		
8700	84.966	765.564	84.949	765.581	84.996	765.534		
8760	84.959	765.571	84.942	765.588	84.989	765.541		
8820	85.029	765.501	84.980	765.550	85.021	765.509		

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
PBP-91-02B,C,D
DECEMBER 1991
ANTECEDENT MONITORING

PBP-91-02B			PBP-91-02C			PBP-91-02D		
ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	GROUNDWATER ELEVATION (feet,MSL)	
0	84.587	765.503	84.600	765.490	84.601	765.489		
60	84.581	765.509	84.619	765.471	84.591	765.499		
120	84.574	765.516	84.619	765.471	84.572	765.516		
180	84.581	765.509	84.628	765.462	84.572	765.518		
240	84.581	765.509	84.628	765.462	84.572	765.518		
300	84.587	765.503	84.638	765.452	84.582	765.508		
360	84.593	765.497	84.628	765.462	84.582	765.508		
420	84.587	765.503	84.628	765.462	84.572	765.518		
480	84.587	765.503	84.619	765.471	84.563	765.527		
540	84.581	765.509	84.610	765.480	84.553	765.537		
600	84.587	765.503	84.619	765.471	84.553	765.537		
660	84.581	765.509	84.610	765.480	84.553	765.537		
720	84.574	765.516	84.600	765.490	84.544	765.546		
780	84.574	765.516	84.600	765.490	84.544	765.546		
840	84.568	765.522	84.591	765.499	84.525	765.565		
900	84.562	765.528	84.591	765.499	84.525	765.565		
960	84.549	765.541	84.572	765.518	84.506	765.584		
1020	84.543	765.547	84.572	765.518	84.506	765.584		
1080	84.549	765.541	84.572	765.518	84.506	765.584		
1140	84.549	765.541	84.572	765.518	84.506	765.584		
1200	84.530	765.560	84.562	765.528	84.487	765.603		
1260	84.536	765.554	84.562	765.528	84.487	765.603		
1320	84.530	765.560	84.543	765.547	84.477	765.613		
1380	84.518	765.572	84.543	765.547	84.477	765.613		
1440	84.492	765.598	84.506	765.584	84.439	765.651		
1500	84.499	765.591	84.515	765.575	84.439	765.651		
1560	84.467	765.623	84.487	765.603	84.411	765.679		
1620	84.480	765.610	84.487	765.603	84.420	765.670		
1680	84.473	765.617	84.477	765.613	84.401	765.689		
1740	84.461	765.629	84.468	765.622	84.392	765.698		
1800	84.461	765.629	84.468	765.622	84.392	765.698		
1860	84.461	765.629	84.477	765.613	84.392	765.698		
1920	84.455	765.635	84.459	765.631	84.382	765.708		
1980	84.455	765.635	84.459	765.631	84.382	765.708		
2040	84.455	765.635	84.449	765.641	84.373	765.717		
2100	84.455	765.635	84.459	765.631	84.382	765.708		
2160	84.448	765.642	84.459	765.631	84.373	765.717		
2220	84.455	765.635	84.449	765.641	84.373	765.717		
2280	84.467	765.623	84.468	765.622	84.382	765.708		
2340	84.461	765.629	84.459	765.631	84.373	765.717		
2400	84.467	765.623	84.468	765.622	84.373	765.717		
2460	84.467	765.623	84.468	765.622	84.373	765.717		
2520	84.473	765.617	84.477	765.613	84.373	765.717		
2580	84.467	765.623	84.468	765.622	84.373	765.717		
2640	84.467	765.623	84.468	765.622	84.373	765.717		
2700	84.467	765.623	84.477	765.613	84.373	765.717		
2760	84.480	765.610	84.477	765.613	84.382	765.708		
2820	84.467	765.623	84.468	765.622	84.364	765.726		
2880	84.461	765.629	84.459	765.631	84.345	765.745		
2940	84.442	765.648	84.440	765.650	84.335	765.755		
3000	84.473	765.617	84.459	765.631	84.345	765.745		
3060	84.467	765.623	84.459	765.631	84.345	765.745		

MADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 PBP-91-02B.C.D
 DECEMBER 1991
 PRECEDENT MONITORING

PBP-91-02B			PBP-91-02C			PBP-91-02D		
ELAPSED TIME								
SINCE	DEPTH TO WATER	GROUNDWATER	DEPTH TO WATER	GROUNDWATER	DEPTH TO WATER	GROUNDWATER		
1200hrs ON	FROM TOP OF	ELEVATION	FROM TOP OF	ELEVATION	FROM TOP OF	ELEVATION		
12/5/92	CASING	(feet,MSL)	CASING	(feet,MSL)	CASING	(feet,MSL)		
(minutes)	(feet)		(feet)		(feet)			
3120	84.461	765.629	84.449	765.641	84.335	765.755		
3180	84.473	765.617	84.459	765.631	84.345	765.745		
3240	84.461	765.629	84.459	765.631	84.345	765.745		
3300	84.467	765.623	84.459	765.631	84.345	765.745		
3360	84.448	765.642	84.440	765.650	84.326	765.764		
3420	84.455	765.635	84.440	765.650	84.326	765.764		
3480	84.448	765.642	84.440	765.650	84.326	765.764		
3540	84.448	765.642	84.430	765.660	84.316	765.774		
3600	84.436	765.654	84.421	765.669	84.307	765.783		
3660	84.442	765.648	84.421	765.669	84.307	765.783		
3720	84.436	765.654	84.421	765.669	84.297	765.793		
3780	84.436	765.654	84.421	765.669	84.297	765.793		
3840	84.429	765.661	84.411	765.679	84.288	765.802		
3900	84.429	765.661	84.411	765.679	84.288	765.802		
3960	84.429	765.661	84.411	765.679	84.288	765.802		
4020	84.429	765.661	84.402	765.688	84.288	765.802		
4080	84.429	765.661	84.411	765.679	84.288	765.802		
4140	84.429	765.661	84.402	765.688	84.278	765.812		
4200	84.429	765.661	84.402	765.688	84.278	765.812		
4260	84.423	765.667	84.393	765.697	84.269	765.821		
4320	84.423	765.667	84.393	765.697	84.259	765.831		
4380	84.429	765.661	84.393	765.697	84.269	765.821		
4440	84.448	765.642	84.411	765.679	84.288	765.802		
4500	84.448	765.642	84.411	765.679	84.288	765.802		
4560	84.461	765.629	84.430	765.660	84.307	765.783		
4620	84.473	765.617	84.430	765.660	84.316	765.774		
4680	84.486	765.604	84.449	765.641	84.326	765.764		
4740	84.480	765.610	84.440	765.650	84.316	765.774		
4800	84.492	765.598	84.440	765.650	84.316	765.774		
4860	84.486	765.604	84.440	765.650	84.307	765.783		
4920	84.480	765.610	84.430	765.660	84.297	765.793		
4980	84.480	765.610	84.430	765.660	84.297	765.793		
5040	84.480	765.610	84.430	765.660	84.297	765.793		
5100	84.480	765.610	84.430	765.660	84.288	765.802		
5160	84.467	765.623	84.421	765.669	84.288	765.802		
5220	84.461	765.629	84.411	765.679	84.269	765.821		
5280	84.461	765.629	84.411	765.679	84.269	765.821		
5340	84.455	765.635	84.402	765.688	84.269	765.821		
5400	84.461	765.629	84.402	765.688	84.269	765.821		
5460	84.455	765.635	84.402	765.688	84.269	765.821		
5520	84.442	765.648	84.393	765.697	84.250	765.840		
5580	84.448	765.642	84.402	765.688	84.259	765.831		
5640	84.448	765.642	84.393	765.697	84.250	765.840		
5700	84.442	765.648	84.383	765.707	84.240	765.850		
5760	84.423	765.667	84.374	765.716	84.221	765.869		
5820	84.429	765.661	84.374	765.716	84.231	765.859		
5880	84.429	765.661	84.364	765.726	84.221	765.869		
5940	84.429	765.661	84.364	765.726	84.221	765.869		
6000	84.448	765.642	84.374	765.716	84.231	765.859		
6060	84.436	765.654	84.364	765.726	84.221	765.869		
6120	84.442	765.648	84.374	765.716	84.221	765.869		
6180	84.448	765.642	84.383	765.707	84.231	765.859		

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
PBP-91-02B,C,D
DECEMBER 1991
ANTECEDENT MONITORING

ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	PBP-91-02B		PBP-91-02C		PBP-91-02D	
	DEPTH TO WATER	GROUNDWATER	DEPTH TO WATER	GROUNDWATER	DEPTH TO WATER	GROUNDWATER
	FROM TOP OF	ELEVATION	FROM TOP OF	ELEVATION	FROM TOP OF	ELEVATION
	CASING (feet)	(feet,MSL)	CASING (feet)	(feet,MSL)	CASING (feet)	(feet,MSL)
6240	84.442	765.648	84.374	765.716	84.221	765.869
6300	84.436	765.654	84.364	765.726	84.212	765.878
6360	84.442	765.648	84.374	765.716	84.212	765.878
6420	84.436	765.654	84.364	765.726	84.212	765.878
6480	84.429	765.661	84.355	765.735	84.202	765.888
6540	84.423	765.667	84.355	765.735	84.193	765.897
6600	84.429	765.661	84.355	765.735	84.193	765.897
6660	84.423	765.667	84.355	765.735	84.193	765.897
6720	84.417	765.673	84.336	765.754	84.183	765.907
6780	84.410	765.680	84.327	765.763	84.174	765.916
6840	84.410	765.680	84.327	765.763	84.174	765.916
6900	84.410	765.680	84.327	765.763	84.174	765.916
6960	84.417	765.673	84.336	765.754	84.174	765.916
7020	84.410	765.680	84.327	765.763	84.174	765.916
7080	84.410	765.680	84.336	765.754	84.174	765.916
7140	84.461	765.629	84.383	765.707	84.221	765.869
7200	84.480	765.610	84.393	765.697	84.231	765.859
7260	84.429	765.661	84.336	765.754	84.174	765.916
7320	84.417	765.673	84.317	765.773	84.155	765.935
7380	84.417	765.673	84.327	765.763	84.155	765.935
7440	84.429	765.661	84.327	765.763	84.164	765.926
7500	84.442	765.648	84.336	765.754	84.174	765.916
7560	84.429	765.661	84.336	765.754	84.164	765.926
7620	84.436	765.654	84.336	765.754	84.164	765.926
7680	84.436	765.654	84.336	765.754	84.174	765.916
7740	84.436	765.654	84.336	765.754	84.174	765.916
7800	84.442	765.648	84.345	765.745	84.174	765.916
7860	84.442	765.648	84.336	765.754	84.174	765.916
7920	84.436	765.654	84.336	765.754	84.164	765.926
7980	84.436	765.654	84.336	765.754	84.164	765.926
8040	84.442	765.648	84.336	765.754	84.164	765.926
8100	84.436	765.654	84.336	765.754	84.164	765.926
8160	84.436	765.654	84.327	765.763	84.155	765.935
8220	84.442	765.648	84.336	765.754	84.164	765.926
8280	84.442	765.648	84.336	765.754	84.155	765.935
8340	84.448	765.642	84.336	765.754	84.164	765.926
8400	84.448	765.642	84.345	765.745	84.164	765.926
8460	84.448	765.642	84.345	765.745	84.164	765.926
8520	84.442	765.648	84.336	765.754	84.155	765.935
8580	84.436	765.654	84.336	765.754	84.155	765.935
8640	84.429	765.661	84.317	765.773	84.136	765.954
8700	84.423	765.667	84.308	765.782	84.126	765.964
8760	84.417	765.673	84.298	765.792	84.117	765.973
8820	84.442	765.648	84.317	765.773	84.136	765.954

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 PBN-91-06C.D
 PRECEDENT MONITORING

PBN-91-06C			PBN-91-06D		
ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	
3120	82.951	765.339	82.157	765.343	
3180	82.951	765.339	82.160	765.340	
3240	82.945	765.345	82.150	765.350	
3300	82.948	765.342	82.154	765.346	
3360	82.922	765.368	82.128	765.372	
3420	82.926	765.364	82.131	765.369	
3480	82.919	765.371	82.125	765.375	
3540	82.916	765.374	82.122	765.378	
3600	82.903	765.387	82.109	765.391	
3660	82.906	765.384	82.112	765.388	
3720	82.900	765.390	82.106	765.394	
3780	82.900	765.390	82.106	765.394	
3840	82.887	765.403	82.097	765.403	
3900	82.894	765.396	82.103	765.397	
3960	82.897	765.393	82.103	765.397	
4020	82.891	765.399	82.097	765.403	
4080	82.894	765.396	82.100	765.400	
4140	82.897	765.393	82.100	765.400	
4200	82.894	765.396	82.100	765.400	
4260	82.884	765.406	82.090	765.410	
4320	82.881	765.409	82.087	765.413	
4380	82.891	765.399	82.093	765.407	
4440	82.916	765.374	82.122	765.378	
4500	82.913	765.377	82.122	765.378	
4560	82.935	765.355	82.141	765.359	
4620	82.948	765.342	82.150	765.350	
4680	82.960	765.330	82.163	765.337	
4740	82.951	765.339	82.154	765.346	
4800	82.964	765.326	82.163	765.337	
4860	82.951	765.339	82.154	765.346	
4920	82.948	765.342	82.150	765.350	
4980	82.948	765.342	82.150	765.350	
5040	82.945	765.345	82.147	765.353	
5100	82.945	765.345	82.147	765.353	
5160	82.935	765.355	82.135	765.365	
5220	82.916	765.374	82.119	765.381	
5280	82.922	765.368	82.122	765.378	
5340	82.916	765.374	82.116	765.384	
5400	82.916	765.374	82.116	765.384	
5460	82.913	765.377	82.112	765.388	
5520	82.900	765.390	82.100	765.400	
5580	82.910	765.380	82.109	765.391	
5640	82.906	765.384	82.103	765.397	
5700	82.900	765.390	82.100	765.400	
5760	82.884	765.406	82.081	765.419	
5820	82.881	765.409	82.078	765.422	
5880	82.884	765.406	82.081	765.419	
5940	82.887	765.403	82.087	765.413	
6000	82.903	765.387	82.106	765.394	
6060	82.900	765.390	82.100	765.400	
6120	82.903	765.387	82.103	765.397	
6180	82.903	765.387	82.100	765.400	
6240	82.903	765.387	82.100	765.400	

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBN-91-06C,D
ANTECEDENT MONITORING

ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	PBN-91-06C		PBN-91-06D	
	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)
6300	82.894	765.396	82.087	765.413
6360	82.903	765.387	82.100	765.400
6420	82.894	765.396	82.090	765.410
6480	82.884	765.406	82.081	765.419
6540	82.881	765.409	82.074	765.426
6600	82.881	765.409	82.078	765.422
6660	82.881	765.409	82.078	765.422
6720	82.862	765.428	82.059	765.441
6780	82.859	765.431	82.055	765.445
6840	82.856	765.434	82.052	765.448
6900	82.859	765.431	82.055	765.445
6960	82.865	765.425	82.059	765.441
7020	82.862	765.428	82.049	765.451
7080	82.862	765.428	82.052	765.448
7140	82.916	765.374	82.106	765.394
7200	82.929	765.361	82.116	765.384
7260	82.878	765.412	82.059	765.441
7320	82.862	765.428	82.052	765.448
7380	82.872	765.418	82.062	765.438
7440	82.881	765.409	82.071	765.429
7500	82.887	765.403	82.081	765.419
7560	82.887	765.403	82.078	765.422
7620	82.891	765.399	82.081	765.419
7680	82.894	765.396	82.084	765.416
7740	82.897	765.393	82.087	765.413
7800	82.897	765.393	82.084	765.416
7860	82.900	765.390	82.087	765.413
7920	82.894	765.396	82.078	765.422
7980	82.894	765.396	82.081	765.419
8040	82.897	765.393	82.084	765.416
8100	82.894	765.396	82.081	765.419
8160	82.887	765.403	82.074	765.426
8220	82.900	765.390	82.084	765.416
8280	82.897	765.393	82.081	765.419
8340	82.903	765.387	82.087	765.413
8400	82.903	765.387	82.090	765.410
8460	82.900	765.390	82.084	765.416
8520	82.897	765.393	82.068	765.432
8580	82.897	765.393	82.068	765.432
8640	82.887	765.403	82.062	765.438
8700	82.875	765.415	82.049	765.451
8760	82.865	765.425	82.046	765.454
8820	82.894	765.396	82.068	765.432

3ADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 3CW-3
 ANTECEDENT MONITORING

BCW-3

ELAPSED TIME SINCE 1200hrs ON 12/5/92 (minutes)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)
6000	85.200	764.800
6060	85.200	764.800
6120	85.200	764.800
6180	85.200	764.800
6240	85.200	764.800
6300	85.184	764.816
6360	85.200	764.800
6420	85.184	764.816
6480	85.184	764.816
6540	85.168	764.832
6600	85.184	764.816
6660	85.168	764.832
6720	85.152	764.848
6780	85.152	764.848
6840	85.136	764.864
6900	85.152	764.848
6960	85.152	764.848
7020	85.152	764.848
7080	85.152	764.848
7140	96.493	753.507
7200	96.351	753.649
7260	85.184	764.816
7320	85.136	764.864
7380	85.152	764.848
7440	85.168	764.832
7500	85.168	764.832
7560	85.168	764.832
7620	85.168	764.832
7680	85.168	764.832
7740	85.168	764.832
7800	85.168	764.832
7860	85.168	764.832
7920	85.168	764.832
7980	85.168	764.832
8040	85.168	764.832
8100	85.168	764.832
8160	85.168	764.832
8220	85.168	764.832
8280	85.168	764.832
8340	85.168	764.832
8400	85.168	764.832
8460	85.168	764.832
8520	85.168	764.832
8580	107.012	742.988
8640	107.012	742.988
8700	107.012	742.988
8760	107.012	742.988
8820	85.105	764.895

RAW AND ADJUSTED DRAWDOWN DATA

WADSWORTH ARMY AMMUNITION PLANT
 ARTEFICIAL QUANTIFIER PUMPING TEST
 DECEMBER 1991
 BP-91-01B
 RAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR	WATER ELEVATION CORRECTED FOR	CORRECTED DRAWDOWN (feet)
					BKGND. WATER LEVEL TREND (ft.MSL)	BAR. PRESS. CHANGE (ft.MSL)	
0	84.991	765.539	0.000	14.644	765.539	765.539	0.000
0.1	84.997	765.533	0.006	14.644	765.533	765.533	0.006
0.2	85.022	765.508	0.031	14.644	765.508	765.508	0.031
0.3	85.060	765.470	0.069	14.644	765.470	765.470	0.069
0.5	85.111	765.419	0.120	14.644	765.419	765.419	0.120
0.6	85.123	765.407	0.132	14.644	765.407	765.407	0.132
0.7	85.132	765.398	0.141	14.644	765.398	765.398	0.141
0.8	85.148	765.382	0.157	14.644	765.382	765.382	0.157
0.9	85.148	765.382	0.157	14.644	765.382	765.382	0.157
1	85.155	765.375	0.164	14.644	765.375	765.375	0.164
2	85.180	765.350	0.189	14.643	765.350	765.350	0.189
3	85.180	765.350	0.189	14.643	765.350	765.350	0.189
4	85.180	765.350	0.189	14.642	765.350	765.350	0.189
5	85.180	765.350	0.189	14.642	765.350	765.350	0.189
6	85.186	765.344	0.195	14.641	765.344	765.344	0.195
7	85.186	765.344	0.195	14.641	765.343	765.344	0.196
8	85.186	765.344	0.195	14.640	765.343	765.344	0.196
9	85.186	765.344	0.195	14.640	765.343	765.343	0.196
10	85.186	765.344	0.195	14.639	765.343	765.343	0.196
20	85.199	765.331	0.208	14.634	765.330	765.330	0.209
30	85.212	765.318	0.221	14.630	765.316	765.316	0.223
40	85.224	765.306	0.233	14.625	765.303	765.304	0.236
50	85.243	765.287	0.252	14.620	765.283	765.284	0.256
60	85.256	765.274	0.265	14.608	765.269	765.270	0.270
70	85.268	765.262	0.277	14.597	765.255	765.257	0.284
80	85.268	765.262	0.277	14.586	765.254	765.255	0.285
90	85.275	765.255	0.284	14.600	765.248	765.250	0.291
100	85.275	765.255	0.284	14.595	765.248	765.249	0.291
110	85.287	765.243	0.296	14.591	765.235	765.237	0.304
170	85.306	765.224	0.315	14.518	765.206	765.210	0.333
230	85.325	765.205	0.334	14.475	765.181	765.185	0.358
290	85.331	765.199	0.340	14.417	765.168	765.173	0.371
310	85.338	765.192	0.347	14.388	765.157	765.162	0.382
350	85.338	765.192	0.347	14.330	765.150	765.156	0.389
410	85.350	765.180	0.359	14.257	765.128	765.135	0.411
470	85.350	765.180	0.359	14.199	765.120	765.129	0.419
530	85.344	765.186	0.353	14.141	765.119	765.128	0.420
590	85.350	765.180	0.359	14.054	765.101	765.112	0.438
630	85.357	765.173	0.366	13.982	765.085	765.097	0.454
650	85.350	765.180	0.359	13.938	765.087	765.099	0.452

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-01B
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR	WATER ELEVATION CORRECTED FOR	CORRECTED DRAWDOWN (feet)
					BKGND. WATER LEVEL TREND (ft.MSL)	BAR. PRESS. CHANGE (ft.MSL)	
710	85.331	765.199	0.340	13.866	765.097	765.109	0.442
770	85.325	765.205	0.334	13.779	765.091	765.105	0.448
810	85.331	765.199	0.340	13.721	765.078	765.092	0.461
830	85.325	765.205	0.334	13.692	765.080	765.095	0.459
890	85.331	765.199	0.340	13.619	765.065	765.081	0.474
950	85.312	765.218	0.321	13.590	765.080	765.096	0.459
1010	85.294	765.236	0.303	13.590	765.096	765.114	0.443
1070	85.306	765.224	0.315	13.634	765.088	765.107	0.451
1130	85.300	765.230	0.309	13.706	765.102	765.122	0.437
1190	85.300	765.230	0.309	13.764	765.107	765.129	0.432
1250	85.312	765.218	0.321	13.866	765.106	765.128	0.433
1310	85.331	765.199	0.340	13.924	765.093	765.116	0.446
1370	85.369	765.161	0.378	13.982	765.060	765.085	0.479
1430	85.401	765.129	0.410	14.054	765.036	765.061	0.503
1470	85.407	765.123	0.416	14.093	765.033	765.059	0.506

- NOTES:
1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
 2. (FT, MSL) - FEET ABOVE MEAN SEA LEVEL

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-01C
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FO	WATER ELEVATION CORRECTED FOR	CORRECTED DRAWDOWN (feet)
					3KGND. WATER LEVEL TREND (ft.MSL)	BAR. PRESS. CHANGE (ft.MSL)	
0	84.955	765.575	0	14.644	765.575	765.575	0.000
0.1	84.961	765.569	0.006	14.644	765.569	765.569	0.006
0.2	84.980	765.550	0.025	14.644	765.550	765.550	0.025
0.3	84.999	765.531	0.044	14.644	765.531	765.531	0.044
0.5	85.031	765.499	0.076	14.644	765.499	765.499	0.076
0.6	85.044	765.486	0.089	14.644	765.486	765.486	0.089
0.7	85.050	765.480	0.095	14.644	765.480	765.480	0.095
0.8	85.063	765.467	0.108	14.644	765.467	765.467	0.108
0.9	85.069	765.461	0.114	14.644	765.461	765.461	0.114
1	85.069	765.461	0.114	14.644	765.461	765.461	0.114
2	85.094	765.436	0.139	14.643	765.436	765.436	0.139
3	85.094	765.436	0.139	14.643	765.436	765.436	0.139
4	85.094	765.436	0.139	14.642	765.436	765.436	0.139
5	85.094	765.436	0.139	14.642	765.436	765.436	0.139
6	85.094	765.436	0.139	14.641	765.436	765.436	0.139
7	85.094	765.436	0.139	14.641	765.435	765.436	0.140
8	85.101	765.429	0.146	14.640	765.428	765.429	0.147
9	85.101	765.429	0.146	14.640	765.428	765.428	0.147
10	85.101	765.429	0.146	14.639	765.428	765.428	0.147
20	85.107	765.423	0.152	14.634	765.422	765.422	0.153
30	85.120	765.410	0.165	14.630	765.408	765.408	0.167
40	85.126	765.404	0.171	14.625	765.401	765.402	0.174
50	85.145	765.385	0.19	14.620	765.381	765.382	0.194
60	85.157	765.373	0.202	14.608	765.368	765.369	0.207
70	85.170	765.360	0.215	14.597	765.353	765.355	0.222
80	85.176	765.354	0.221	14.586	765.346	765.347	0.229
90	85.176	765.354	0.221	14.600	765.347	765.349	0.228
100	85.176	765.354	0.221	14.595	765.347	765.348	0.228
110	85.189	765.341	0.234	14.591	765.333	765.335	0.242
170	85.195	765.335	0.24	14.518	765.317	765.321	0.258
230	85.214	765.316	0.259	14.475	765.292	765.296	0.283
290	85.221	765.309	0.266	14.417	765.278	765.283	0.297
310	85.227	765.303	0.272	14.388	765.268	765.273	0.307
350	85.221	765.309	0.266	14.330	765.267	765.273	0.308
410	85.240	765.290	0.285	14.257	765.238	765.245	0.337
470	85.233	765.297	0.278	14.199	765.237	765.246	0.338
530	85.227	765.303	0.272	14.141	765.236	765.245	0.339
590	85.233	765.297	0.278	14.054	765.218	765.229	0.357

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-01C
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FO	WATER ELEVATION CORRECTED FOR	CORRECTED DRAWDOWN (feet)
					3KGND. WATER LEVEL TREND (ft.MSL)	BAR. PRESS. CHANGE (ft.MSL)	
630	85.233	765.297	0.278	13.982	765.209	765.221	0.366
650	85.233	765.297	0.278	13.938	765.204	765.216	0.371
710	85.214	765.316	0.259	13.866	765.214	765.226	0.361
770	85.208	765.322	0.253	13.779	765.208	765.222	0.367
810	85.208	765.322	0.253	13.721	765.201	765.215	0.374
830	85.208	765.322	0.253	13.692	765.197	765.212	0.378
890	85.208	765.322	0.253	13.619	765.188	765.204	0.397
950	85.189	765.341	0.234	13.590	765.203	765.219	0.372
1010	85.170	765.360	0.215	13.590	765.220	765.238	0.355
1070	85.183	765.347	0.228	13.634	765.211	765.230	0.364
1130	85.176	765.354	0.221	13.706	765.226	765.246	0.349
1190	85.176	765.354	0.221	13.764	765.231	765.253	0.344
1250	85.183	765.347	0.228	13.866	765.235	765.257	0.340
1310	85.214	765.316	0.259	13.924	765.210	765.233	0.365
1370	85.246	765.284	0.291	13.982	765.183	765.208	0.392
1430	85.278	765.252	0.323	14.054	765.159	765.184	0.416
1440	85.278	765.252	0.323	14.093	765.163	765.188	0.412

NOTES: 1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
2. (FT.MSL) - FEET ABOVE MEAN SEA LEVEL

WADSWORTH ARMY AMMUNITION PLANT
 ARTEFICIAL RECHARGE QUANTIFICATION
 QUANTIFICATION PUMPING TEST
 DECEMBER 1991
 WADSWORTH-91-01D
 DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
0	85.002	765.528	0.000	14.644	765.528	765.528	0.000
0.1	85.002	765.528	0.000	14.644	765.528	765.528	0.000
0.2	85.002	765.528	0.000	14.644	765.528	765.528	0.000
0.3	85.021	765.509	0.019	14.644	765.509	765.509	0.019
0.5	85.046	765.484	0.044	14.644	765.484	765.484	0.044
0.6	85.053	765.477	0.051	14.644	765.477	765.477	0.051
0.7	85.059	765.471	0.057	14.644	765.471	765.471	0.057
0.8	85.072	765.458	0.070	14.644	765.458	765.458	0.070
0.9	85.072	765.458	0.070	14.644	765.458	765.458	0.070
1	85.078	765.452	0.076	14.644	765.452	765.452	0.076
2	85.097	765.433	0.095	14.643	765.433	765.433	0.095
3	85.103	765.427	0.101	14.643	765.427	765.427	0.101
4	85.103	765.427	0.101	14.642	765.427	765.427	0.101
5	85.103	765.427	0.101	14.642	765.427	765.427	0.101
6	85.103	765.427	0.101	14.641	765.427	765.427	0.101
7	85.110	765.420	0.108	14.641	765.419	765.420	0.109
8	85.103	765.427	0.101	14.640	765.426	765.427	0.102
9	85.103	765.427	0.101	14.640	765.426	765.426	0.102
10	85.103	765.427	0.101	14.639	765.426	765.426	0.102
20	85.110	765.420	0.108	14.634	765.419	765.419	0.109
30	85.116	765.414	0.114	14.630	765.412	765.412	0.116
40	85.128	765.402	0.126	14.625	765.399	765.400	0.129
50	85.141	765.389	0.139	14.620	765.385	765.386	0.143
60	85.154	765.376	0.152	14.608	765.371	765.372	0.157
70	85.166	765.364	0.164	14.597	765.357	765.359	0.171
80	85.173	765.357	0.171	14.586	765.349	765.350	0.179
90	85.173	765.357	0.171	14.600	765.350	765.352	0.178
100	85.166	765.364	0.164	14.595	765.357	765.358	0.171
110	85.179	765.351	0.177	14.591	765.343	765.345	0.185
170	85.192	765.338	0.190	14.518	765.320	765.324	0.208
230	85.204	765.326	0.202	14.475	765.302	765.306	0.226
290	85.211	765.319	0.209	14.417	765.288	765.293	0.240
310	85.211	765.319	0.209	14.388	765.284	765.289	0.244
350	85.211	765.319	0.209	14.330	765.277	765.283	0.251
410	85.223	765.307	0.221	14.257	765.255	765.262	0.273
470	85.223	765.307	0.221	14.199	765.247	765.256	0.281
530	85.217	765.313	0.215	14.141	765.246	765.255	0.282
590	85.223	765.307	0.221	14.054	765.228	765.239	0.300
630	85.223	765.307	0.221	13.982	765.219	765.231	0.309
650	85.223	765.307	0.221	13.938	765.214	765.226	0.314

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-01D
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
710	85.204	765.326	0.202	13.866	765.224	765.236	0.304
770	85.198	765.332	0.196	13.779	765.218	765.232	0.310
810	85.198	765.332	0.196	13.721	765.211	765.225	0.317
830	85.192	765.338	0.190	13.692	765.213	765.228	0.315
890	85.204	765.326	0.202	13.619	765.192	765.208	0.336
950	85.179	765.351	0.177	13.590	765.213	765.229	0.315
1010	85.160	765.370	0.158	13.590	765.230	765.248	0.298
1070	85.173	765.357	0.171	13.634	765.221	765.240	0.307
1130	85.166	765.364	0.164	13.706	765.236	765.256	0.290
1190	85.166	765.364	0.164	13.764	765.241	765.263	0.287
1250	85.179	765.351	0.177	13.866	765.239	765.261	0.290
1310	85.204	765.326	0.202	13.924	765.220	765.243	0.300
1370	85.236	765.294	0.234	13.982	765.193	765.218	0.300
1430	85.274	765.256	0.272	14.054	765.163	765.188	0.300
1440	85.274	765.256	0.272	14.093	765.167	765.192	0.360

- NOTES:
1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
 2. (FT.MSL) - FEET ABOVE MEAN SEA LEVEL

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-02B
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
0	84.423	765.667	0.000	14.644	765.667	765.667	0.000
0.1	84.423	765.667	0.000	14.644	765.667	765.667	0.000
0.2	84.423	765.667	0.000	14.644	765.667	765.667	0.000
0.3	84.429	765.661	0.006	14.644	765.661	765.661	0.006
0.5	84.436	765.654	0.013	14.644	765.654	765.654	0.013
0.6	84.442	765.648	0.019	14.644	765.648	765.648	0.019
0.7	84.442	765.648	0.019	14.644	765.648	765.648	0.019
0.8	84.448	765.642	0.025	14.644	765.642	765.642	0.025
0.9	84.448	765.642	0.025	14.644	765.642	765.642	0.025
1	84.448	765.642	0.025	14.644	765.642	765.642	0.025
2	84.461	765.629	0.038	14.643	765.629	765.629	0.038
3	84.461	765.629	0.038	14.643	765.629	765.629	0.038
4	84.461	765.629	0.038	14.642	765.629	765.629	0.038
5	84.461	765.629	0.038	14.642	765.629	765.629	0.038
6	84.461	765.629	0.038	14.641	765.629	765.629	0.038
7	84.461	765.629	0.038	14.641	765.628	765.629	0.039
8	84.461	765.629	0.038	14.640	765.628	765.629	0.039
9	84.461	765.629	0.038	14.640	765.628	765.628	0.039
10	84.461	765.629	0.038	14.639	765.628	765.628	0.039
20	84.473	765.617	0.050	14.634	765.616	765.616	0.051
30	84.480	765.610	0.057	14.630	765.608	765.608	0.059
40	84.486	765.604	0.063	14.625	765.601	765.602	0.066
50	84.499	765.591	0.076	14.620	765.587	765.588	0.080
60	84.518	765.572	0.095	14.608	765.567	765.568	0.100
70	84.518	765.572	0.095	14.597	765.565	765.567	0.102
80	84.524	765.566	0.101	14.586	765.558	765.559	0.109
90	84.524	765.566	0.101	14.600	765.559	765.561	0.108
100	84.524	765.566	0.101	14.595	765.559	765.560	0.108
110	84.543	765.547	0.120	14.591	765.539	765.541	0.123
170	84.562	765.528	0.139	14.518	765.510	765.514	0.157
230	84.581	765.509	0.158	14.475	765.485	765.489	0.182
290	84.593	765.497	0.170	14.417	765.466	765.471	0.201
310	84.600	765.490	0.177	14.388	765.455	765.460	0.212
350	84.600	765.490	0.177	14.330	765.448	765.454	0.219
410	84.625	765.465	0.202	14.257	765.413	765.420	0.254
470	84.618	765.472	0.195	14.199	765.412	765.421	0.255
530	84.612	765.478	0.189	14.141	765.411	765.420	0.256
590	84.625	765.465	0.202	14.054	765.386	765.397	0.281
630	84.631	765.459	0.208	13.982	765.371	765.383	0.296
650	84.625	765.465	0.202	13.938	765.372	765.384	0.295

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-02B
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING	DEPTH TO WATER	WATER ELEVATION	DRAWDOWN	BAROMETRIC PRESSURE	WATER ELEVATION	WATER ELEVATION	CORRECTED DRAWDOWN
					CORRECTED FOR	CORRECTED FOR	
					BKGND. WATER LEVEL TREND	BAR. PRESS. CHANGE	
(min)	(feet)	(ft.MSL)	(feet)	(PSI)	(ft.MSL)	(ft.MSL)	(feet)
710	84.612	765.478	0.189	13.866	765.376	765.388	0.291
770	84.606	765.484	0.183	13.779	765.370	765.384	0.297
810	84.612	765.478	0.189	13.721	765.357	765.371	0.310
830	84.606	765.484	0.183	13.692	765.359	765.374	0.308
890	84.612	765.478	0.189	13.619	765.344	765.360	0.323
950	84.587	765.503	0.164	13.590	765.365	765.381	0.302
1010	84.574	765.516	0.151	13.590	765.376	765.394	0.291
1070	84.581	765.509	0.158	13.634	765.373	765.392	0.294
1130	84.574	765.516	0.151	13.706	765.388	765.408	0.279
1190	84.574	765.516	0.151	13.764	765.393	765.415	0.274
1250	84.574	765.516	0.151	13.866	765.404	765.426	0.263
1310	84.600	765.490	0.177	13.924	765.384	765.407	0.283
1370	84.625	765.465	0.202	13.982	765.364	765.389	0.303
1430	84.644	765.446	0.221	14.054	765.353	765.378	0.314
1440	84.650	765.440	0.227	14.093	765.351	765.376	0.316

NOTES: 1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
2. (FT.MSL) - FEET ABOVE MEAN SEA LEVEL

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
BP-91-02C
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
0	84.298	765.792	0.000	14.644	765.792	765.792	0.000
0.1	84.289	765.801	-0.009	14.644	765.801	765.801	-0.009
0.2	84.289	765.801	-0.009	14.644	765.801	765.801	-0.009
0.3	84.298	765.792	0.000	14.644	765.792	765.792	0.000
0.5	84.298	765.792	0.000	14.644	765.792	765.792	0.000
0.6	84.308	765.782	0.010	14.644	765.782	765.782	0.010
0.7	84.308	765.782	0.010	14.644	765.782	765.782	0.010
0.8	84.308	765.782	0.010	14.644	765.782	765.782	0.010
0.9	84.317	765.773	0.019	14.644	765.773	765.773	0.019
1	84.317	765.773	0.019	14.644	765.773	765.773	0.019
2	84.327	765.763	0.029	14.643	765.763	765.763	0.029
3	84.336	765.754	0.038	14.643	765.754	765.754	0.038
4	84.336	765.754	0.038	14.642	765.754	765.754	0.038
5	84.336	765.754	0.038	14.642	765.754	765.754	0.038
6	84.327	765.763	0.029	14.641	765.763	765.763	0.029
7	84.327	765.763	0.029	14.641	765.762	765.763	0.030
8	84.327	765.763	0.029	14.640	765.762	765.763	0.030
9	84.327	765.763	0.029	14.640	765.762	765.762	0.030
10	84.327	765.763	0.029	14.639	765.762	765.762	0.030
20	84.336	765.754	0.038	14.634	765.753	765.753	0.039
30	84.345	765.745	0.047	14.630	765.743	765.743	0.049
40	84.364	765.726	0.066	14.625	765.723	765.724	0.069
50	84.374	765.716	0.076	14.620	765.712	765.713	0.080
60	84.393	765.697	0.095	14.608	765.692	765.693	0.100
70	84.402	765.688	0.104	14.597	765.681	765.683	0.111
80	84.411	765.679	0.113	14.586	765.671	765.672	0.121
90	84.411	765.679	0.113	14.600	765.672	765.674	0.120
100	84.411	765.679	0.113	14.595	765.672	765.673	0.120
110	84.430	765.660	0.132	14.591	765.652	765.654	0.140
170	84.449	765.641	0.151	14.518	765.623	765.627	0.169
230	84.459	765.631	0.161	14.475	765.607	765.611	0.185
290	84.468	765.622	0.170	14.417	765.591	765.596	0.201
310	84.459	765.631	0.161	14.388	765.596	765.601	0.196
350	84.459	765.631	0.161	14.330	765.589	765.595	0.203
410	84.468	765.622	0.170	14.257	765.570	765.577	0.222
470	84.459	765.631	0.161	14.199	765.571	765.580	0.221
530	84.459	765.631	0.161	14.141	765.564	765.573	0.228
590	84.459	765.631	0.161	14.054	765.552	765.563	0.240
630	84.459	765.631	0.161	13.982	765.543	765.555	0.249
650	84.449	765.641	0.151	13.938	765.548	765.560	0.244

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-02C
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECT DRAWDO (feet)
710	84.430	765.660	0.132	13.866	765.558	765.570	C
770	84.430	765.660	0.132	13.779	765.546	765.560	C
810	84.430	765.660	0.132	13.721	765.539	765.553	C
830	84.430	765.660	0.132	13.692	765.535	765.550	C
890	84.430	765.660	0.132	13.619	765.526	765.542	C
950	84.411	765.679	0.113	13.590	765.541	765.557	C
1010	84.393	765.697	0.095	13.590	765.557	765.575	C
1070	84.402	765.688	0.104	13.634	765.552	765.571	C
1130	84.393	765.697	0.095	13.706	765.569	765.589	C
1190	84.383	765.707	0.085	13.764	765.584	765.606	C
1250	84.393	765.697	0.095	13.866	765.585	765.607	C
1310	84.411	765.679	0.113	13.924	765.573	765.596	C
1370	84.440	765.650	0.142	13.982	765.549	765.574	C
1430	84.468	765.622	0.170	14.054	765.529	765.554	C
1440	84.468	765.622	0.170	14.093	765.533	765.558	C

- NOTES:
1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
 2. (FT,MSL) - FEET ABOVE MEAN SEA LEVEL

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BP-91-02D
 DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
0	84.126	765.964	0.000	14.644	765.964	765.964	0.000
0.1	84.155	765.935	0.029	14.644	765.935	765.935	0.029
0.2	84.145	765.945	0.019	14.644	765.945	765.945	0.019
0.3	84.155	765.935	0.029	14.644	765.935	765.935	0.029
0.5	84.155	765.935	0.029	14.644	765.935	765.935	0.029
0.6	84.155	765.935	0.029	14.644	765.935	765.935	0.029
0.7	84.155	765.935	0.029	14.644	765.935	765.935	0.029
0.8	84.155	765.935	0.029	14.644	765.935	765.935	0.029
0.9	84.155	765.935	0.029	14.644	765.935	765.935	0.029
1	84.164	765.926	0.038	14.644	765.926	765.926	0.038
2	84.174	765.916	0.048	14.643	765.916	765.916	0.048
3	84.174	765.916	0.048	14.643	765.916	765.916	0.048
4	84.174	765.916	0.048	14.642	765.916	765.916	0.048
5	84.174	765.916	0.048	14.642	765.916	765.916	0.048
6	84.164	765.926	0.038	14.641	765.926	765.926	0.038
7	84.164	765.926	0.038	14.641	765.925	765.926	0.039
8	84.164	765.926	0.038	14.640	765.925	765.926	0.039
9	84.174	765.916	0.048	14.640	765.915	765.915	0.049
10	84.174	765.916	0.048	14.639	765.915	765.915	0.049
20	84.183	765.907	0.057	14.634	765.906	765.906	0.058
30	84.193	765.897	0.067	14.630	765.895	765.895	0.069
40	84.212	765.878	0.086	14.625	765.875	765.876	0.089
50	84.231	765.859	0.105	14.620	765.855	765.856	0.109
60	84.240	765.850	0.114	14.608	765.845	765.846	0.119
70	84.250	765.840	0.124	14.597	765.833	765.835	0.131
80	84.250	765.840	0.124	14.586	765.832	765.833	0.132
90	84.259	765.831	0.133	14.600	765.824	765.826	0.140
100	84.250	765.840	0.124	14.595	765.833	765.834	0.131
110	84.269	765.821	0.143	14.591	765.813	765.815	0.151
170	84.250	765.840	0.124	14.518	765.822	765.826	0.142
230	84.250	765.840	0.124	14.475	765.816	765.820	0.148
290	84.250	765.840	0.124	14.417	765.809	765.814	0.155
310	84.250	765.840	0.124	14.388	765.805	765.810	0.159
350	84.250	765.840	0.124	14.330	765.798	765.804	0.166
410	84.259	765.831	0.133	14.257	765.779	765.786	0.185
470	84.259	765.831	0.133	14.199	765.771	765.780	0.193
530	84.250	765.840	0.124	14.141	765.773	765.782	0.191
590	84.250	765.840	0.124	14.054	765.761	765.772	0.203
630	84.259	765.831	0.133	13.982	765.743	765.755	0.221
650	84.250	765.840	0.124	13.938	765.747	765.759	0.217

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-02D
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
710	84.231	765.859	0.105	13.866	765.757	765.769	0.207
770	84.231	765.859	0.105	13.779	765.745	765.759	0.219
810	84.231	765.859	0.105	13.721	765.738	765.752	0.226
830	84.231	765.859	0.105	13.692	765.734	765.749	0.230
890	84.231	765.859	0.105	13.619	765.725	765.741	0.239
950	84.212	765.878	0.086	13.590	765.740	765.756	0.224
1010	84.193	765.897	0.067	13.590	765.757	765.775	0.207
1070	84.202	765.888	0.076	13.634	765.752	765.771	0.212
1130	84.193	765.897	0.067	13.706	765.769	765.789	0.195
1190	84.193	765.897	0.067	13.764	765.774	765.796	0.190
1250	84.202	765.888	0.076	13.866	765.776	765.798	0.188
1310	84.221	765.869	0.095	13.924	765.763	765.786	0.201
1370	84.250	765.840	0.124	13.982	765.739	765.764	0.225
1430	84.269	765.821	0.143	14.054	765.728	765.753	0.236
1440	84.269	765.821	0.143	14.093	765.732	765.757	0.232

- NOTES:
1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
 2. (FT.MSL) - FEET ABOVE MEAN SEA LEVEL

BADGER ARMY AMMUNITION PLANT

AQUIFER PUMPING TEST

DECEMBER 1991

BN-91-06C

DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR	WATER ELEVATION CORRECTED FOR	CORRECTED DRAWDOWN (feet)
					BKGND. WATER LEVEL TREND (ft.MSL)	BAR. PRESS. CHANGE (ft.MSL)	
0	82.875	765.415	0.000	14.644	765.415	765.415	0.000
0.1	82.875	765.415	0.000	14.644	765.415	765.415	0.000
0.2	82.878	765.412	0.003	14.644	765.412	765.412	0.003
0.3	82.881	765.409	0.006	14.644	765.409	765.409	0.006
0.5	82.891	765.399	0.016	14.644	765.399	765.399	0.016
0.6	82.894	765.396	0.019	14.644	765.396	765.396	0.019
0.7	82.903	765.387	0.028	14.644	765.387	765.387	0.028
0.8	82.906	765.384	0.031	14.644	765.384	765.384	0.031
0.9	82.906	765.384	0.031	14.644	765.384	765.384	0.031
1	82.910	765.380	0.035	14.644	765.380	765.380	0.035
2	82.926	765.364	0.051	14.643	765.364	765.364	0.051
3	82.929	765.361	0.054	14.643	765.361	765.361	0.054
4	82.929	765.361	0.054	14.642	765.361	765.361	0.054
5	82.929	765.361	0.054	14.642	765.361	765.361	0.054
6	82.929	765.361	0.054	14.641	765.361	765.361	0.054
7	82.929	765.361	0.054	14.641	765.360	765.361	0.055
8	82.932	765.358	0.057	14.640	765.357	765.358	0.058
9	82.929	765.361	0.054	14.640	765.360	765.360	0.055
10	82.929	765.361	0.054	14.639	765.360	765.360	0.055
20	82.935	765.355	0.060	14.634	765.354	765.354	0.061
30	82.941	765.349	0.066	14.630	765.347	765.347	0.068
40	82.951	765.339	0.076	14.625	765.336	765.337	0.079
50	82.964	765.326	0.089	14.620	765.322	765.323	0.093
60	82.976	765.314	0.101	14.608	765.309	765.310	0.106
70	82.986	765.304	0.111	14.597	765.297	765.299	0.118
80	82.992	765.298	0.117	14.586	765.290	765.291	0.125
90	82.989	765.301	0.114	14.600	765.294	765.296	0.121
100	82.989	765.301	0.114	14.595	765.294	765.295	0.121
110	82.999	765.291	0.124	14.591	765.283	765.285	0.132
170	83.008	765.282	0.133	14.518	765.264	765.268	0.151
230	83.018	765.272	0.143	14.475	765.248	765.252	0.167
290	83.024	765.266	0.149	14.417	765.235	765.240	0.180
310	83.024	765.266	0.149	14.388	765.231	765.236	0.184
350	83.020	765.270	0.145	14.330	765.228	765.234	0.187
410	83.037	765.253	0.162	14.257	765.201	765.208	0.214
470	83.030	765.260	0.155	14.199	765.200	765.209	0.215
530	83.018	765.272	0.143	14.141	765.205	765.214	0.210
590	83.024	765.266	0.149	14.054	765.187	765.198	0.228
630	83.027	765.263	0.152	13.982	765.175	765.187	0.240
650	83.024	765.266	0.149	13.938	765.173	765.185	0.242

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBN-91-06C
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION	WATER ELEVATION	CORRECTED DRAWDOWN (feet)
					CORRECTED FOR	CORRECTED FOR	
					BKGND. WATER LEVEL TREND (ft.MSL)	BAR. PRESS. CHANGE (ft.MSL)	
710	83.002	765.288	0.127	13.866	765.186	765.198	0.229
770	82.999	765.291	0.124	13.779	765.177	765.191	0.238
810	83.002	765.288	0.127	13.721	765.167	765.181	0.248
830	82.995	765.295	0.120	13.692	765.170	765.185	0.245
890	83.002	765.288	0.127	13.619	765.154	765.170	0.261
950	82.980	765.310	0.105	13.590	765.172	765.188	0.243
1010	82.957	765.333	0.082	13.590	765.193	765.211	0.222
1070	82.973	765.317	0.098	13.634	765.181	765.200	0.234
1130	82.970	765.320	0.095	13.706	765.192	765.212	0.223
1190	82.967	765.323	0.092	13.764	765.200	765.222	0.215
1250	82.976	765.314	0.101	13.866	765.202	765.224	0.213
1310	83.005	765.285	0.130	13.924	765.179	765.202	0.236
1370	83.046	765.244	0.171	13.982	765.143	765.168	0.272
1430	83.081	765.209	0.206	14.054	765.116	765.141	0.299
1440	83.084	765.206	0.209	14.093	765.117	765.142	0.298

- NOTES:
1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
 2. (FT.MSL) - FEET ABOVE MEAN SEA LEVEL

SADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BN-91-06D
 DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
0	82.055	765.445	0.000	14.644	765.445	765.445	0.000
0.1	82.055	765.445	0.000	14.644	765.445	765.445	0.000
0.2	82.055	765.445	0.000	14.644	765.445	765.445	0.000
0.3	82.062	765.438	0.007	14.644	765.438	765.438	0.007
0.5	82.071	765.429	0.016	14.644	765.429	765.429	0.016
0.6	82.074	765.426	0.019	14.644	765.426	765.426	0.019
0.7	82.084	765.416	0.029	14.644	765.416	765.416	0.029
0.8	82.087	765.413	0.032	14.644	765.413	765.413	0.032
0.9	82.087	765.413	0.032	14.644	765.413	765.413	0.032
1	82.090	765.41	0.035	14.644	765.410	765.410	0.035
2	82.106	765.394	0.051	14.643	765.394	765.394	0.051
3	82.106	765.394	0.051	14.643	765.394	765.394	0.051
4	82.109	765.391	0.054	14.642	765.391	765.391	0.054
5	82.109	765.391	0.054	14.642	765.391	765.391	0.054
6	82.109	765.391	0.054	14.641	765.391	765.391	0.054
7	82.109	765.391	0.054	14.641	765.390	765.391	0.055
8	82.109	765.391	0.054	14.640	765.390	765.391	0.055
9	82.109	765.391	0.054	14.640	765.390	765.390	0.055
10	82.109	765.391	0.054	14.639	765.390	765.390	0.055
20	82.116	765.384	0.061	14.634	765.383	765.383	0.062
30	82.119	765.381	0.064	14.630	765.379	765.379	0.066
40	82.128	765.372	0.073	14.625	765.369	765.370	0.076
50	82.141	765.359	0.086	14.620	765.355	765.356	0.090
60	82.154	765.346	0.099	14.608	765.341	765.342	0.104
70	82.160	765.34	0.105	14.597	765.333	765.335	0.112
80	82.166	765.334	0.111	14.586	765.326	765.327	0.119
90	82.163	765.337	0.108	14.600	765.330	765.332	0.115
100	82.163	765.337	0.108	14.595	765.330	765.331	0.115
110	82.173	765.327	0.118	14.591	765.319	765.321	0.126
170	82.179	765.321	0.124	14.518	765.303	765.307	0.142
230	82.189	765.311	0.134	14.475	765.287	765.291	0.158
290	82.195	765.305	0.140	14.417	765.274	765.279	0.171
310	82.195	765.305	0.140	14.388	765.270	765.275	0.175
350	82.192	765.308	0.137	14.330	765.266	765.272	0.179
410	82.211	765.289	0.156	14.257	765.237	765.244	0.208
470	82.201	765.299	0.146	14.199	765.239	765.248	0.206
530	82.192	765.308	0.137	14.141	765.241	765.250	0.204
590	82.201	765.299	0.146	14.054	765.220	765.231	0.225
630	82.204	765.296	0.149	13.982	765.208	765.220	0.237
550	82.201	765.299	0.146	13.938	765.206	765.218	0.239

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBN-91-060
DRAWDOWN DATA

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)	DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	WATER ELEVATION CORRECTED FOR BKGND. WATER LEVEL TREND (ft.MSL)	WATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft.MSL)	CORRECTED DRAWDOWN (feet)
710	82.179	765.321	0.124	13.866	765.219	765.231	0.226
770	82.173	765.327	0.118	13.779	765.213	765.227	0.232
810	82.176	765.324	0.121	13.721	765.203	765.217	0.242
830	82.173	765.327	0.118	13.692	765.202	765.217	0.243
890	82.176	765.324	0.121	13.619	765.190	765.206	0.255
950	82.150	765.35	0.095	13.590	765.212	765.228	0.233
1010	82.131	765.369	0.076	13.590	765.229	765.247	0.216
1070	82.147	765.353	0.092	13.634	765.217	765.236	0.229
1130	82.141	765.359	0.086	13.706	765.231	765.251	0.214
1190	82.141	765.359	0.086	13.764	765.236	765.258	0.209
1250	82.150	765.35	0.095	13.866	765.238	765.260	0.207
1310	82.179	765.321	0.124	13.924	765.215	765.238	0.230
1370	82.217	765.283	0.162	13.982	765.182	765.207	0.263
1430	82.249	765.251	0.194	14.054	765.158	765.183	0.287
1440	82.255	765.245	0.200	14.093	765.156	765.181	0.289

- NOTES:
1. PUMPING OF BCW-3 STARTED AT 1600 HOURS ON 12/11/91.
 2. (FT. MSL) - FEET ABOVE MEAN SEA LEVEL

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 DRAWDOWN DATA

BCW-3		
ELAPSED TIME		
SINCE START	DEPTH TO	WATER
OF PUMPING	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
0	85.089	764.911
0 0166	85.073	764.927
0 025	85.073	764.927
0 0333	85.073	764.927
0 0416	87.474	762.526
0 05	87.300	762.700
0 0583	88.185	761.815
0 0666	88.927	761.073
0 075	89.875	760.125
0 0833	90.364	759.636
0 1	91.454	758.546
0 1166	92.197	757.803
0 1333	92.623	757.377
0 15	92.497	757.503
0 1666	92.449	757.551
0 1833	92.623	757.377
0 2	92.670	757.330
0 2166	92.860	757.140
0 2333	93.002	756.998
0 25	93.128	756.872
0 2666	93.318	756.682
0 2833	93.476	756.524
0 3	93.650	756.350
0 3166	93.760	756.240
0 3333	93.808	756.192
0 4166	94.187	755.813
0 5	94.392	755.608
0 5833	94.503	755.497
0 6666	94.582	755.418
0 75	94.724	755.276
0 8333	94.897	755.103
0 9166	94.976	755.024
1	95.119	754.881
1 0833	95.134	754.866
1 1666	95.198	754.802
1 25	95.245	754.755
1 3333	95.245	754.755
1 4166	95.340	754.660
1 5	95.355	754.645
1 5833	95.324	754.676

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW - 3
 DRAWDOWN DATA

BCW-3		
ELAPSED TIME		
SINCE START	DEPTH TO	WATER
OF PUMPING	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
1.6666	95.371	754.629
1.75	95.355	754.645
1.8333	95.292	754.708
1.9166	95.292	754.708
2	95.324	754.676
2.5	95.387	754.613
3	95.419	754.581
3.5	95.450	754.550
4	95.466	754.534
4.5	95.419	754.581
5	95.434	754.566
5.5	95.450	754.550
6	95.450	754.550
6.5	95.466	754.534
7	95.403	754.597
7.5	95.419	754.581
8	95.355	754.645
8.5	95.434	754.566
9	95.434	754.566
9.5	95.355	754.645
10	95.371	754.629
12	95.403	754.597
14	95.355	754.645
16	95.34	754.660
18	95.45	754.550
20	95.371	754.629
22	95.387	754.613
24	95.355	754.645
26	95.482	754.518
28	95.45	754.550
30	95.403	754.597
32	95.434	754.566
34	95.482	754.518
36	95.466	754.534
38	95.434	754.566
40	95.419	754.581
42	95.466	754.534
44	95.482	754.518
46	95.466	754.534
48	95.435	754.522

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 DRAWDOWN DATA

BCW-3		
ELAPSED TIME		
SINCE START	DEPTH TO	WATER
OF PUMPING	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
50	95.466	754.534
52	95.513	754.487
54	95.498	754.502
56	95.577	754.423
58	95.545	754.455
60	95.545	754.455
62	95.529	754.471
64	95.513	754.487
66	95.561	754.439
68	95.561	754.439
70	95.577	754.423
72	95.545	754.455
74	95.561	754.439
76	95.577	754.423
78	95.577	754.423
80	95.513	754.487
82	95.545	754.455
84	95.561	754.439
86	95.561	754.439
88	95.513	754.487
90	95.545	754.455
92	95.561	754.439
94	95.561	754.439
96	95.561	754.439
98	95.529	754.471
100	95.561	754.439
110	95.577	754.423
120	95.608	754.392
130	95.656	754.344
140	95.624	754.376
150	95.434	754.566
160	95.419	754.581
170	95.419	754.581
180	95.387	754.613
190	95.466	754.534
200	95.45	754.550
210	95.419	754.581
220	95.419	754.581
230	95.45	754.550
240	95.482	754.518

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 DRAWDOWN DATA

BCW-3		
ELAPSED TIME		
SINCE START	DEPTH TO	WATER
OF PUMPING	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
250	95.434	754.566
260	95.466	754.534
270	95.498	754.502
280	95.434	754.566
290	95.482	754.518
300	95.466	754.534
310	95.466	754.534
320	95.498	754.502
330	95.513	754.487
340	95.419	754.581
350	95.513	754.487
360	95.466	754.534
370	95.466	754.534
380	95.513	754.487
390	95.482	754.518
400	95.466	754.534
410	95.529	754.471
420	95.498	754.502
430	95.529	754.471
440	95.482	754.518
450	95.482	754.518
460	95.529	754.471
470	95.529	754.471
480	95.513	754.487
490	95.466	754.534
500	95.466	754.534
510	95.482	754.518
520	95.466	754.534
530	95.466	754.534
540	95.513	754.487
550	95.513	754.487
560	95.498	754.502
570	95.466	754.534
580	95.529	754.471
590	95.529	754.471
600	95.513	754.487
610	95.466	754.534
620	95.466	754.534
630	95.498	754.502
640	95.498	754.502

B-DOGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 DRAWDOWN DATA

BCW-3		
ELAPSED TIME		
SINCE START	DEPTH TO	WATER
OF PUMPING	WATER	ELEVATION
(min)	(feet)	(ft,MSL)
650	95.513	754.487
660	95.466	754.534
670	95.466	754.534
680	95.482	754.518
690	95.529	754.471
700	95.482	754.518
710	95.482	754.518
720	95.45	754.550
730	95.482	754.518
740	95.498	754.502
750	95.434	754.566
760	95.482	754.518
770	95.498	754.502
780	95.513	754.487
790	95.482	754.518
800	95.466	754.534
810	95.45	754.550
820	95.466	754.534
830	95.466	754.534
840	95.498	754.502
850	95.434	754.566
860	95.466	754.534
870	95.466	754.534
880	95.466	754.534
890	95.466	754.534
900	95.466	754.534
910	95.498	754.502
920	95.45	754.550
930	95.403	754.597
940	95.45	754.550
950	95.434	754.566
960	95.45	754.550
970	95.466	754.534
980	95.498	754.502
990	95.45	754.550
1000	95.419	754.581
1010	95.419	754.581

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 DRAWDOWN DATA

BCW-3

ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)
--	-----------------------------	--------------------------------

1020	95.466	754.534
1030	95.45	754.550
1040	95.387	754.613
1050	95.45	754.550
1060	95.387	754.613
1070	95.403	754.597
1080	95.434	754.566
1090	95.45	754.550
1100	95.419	754.581
1110	95.482	754.518
1120	95.419	754.581
1130	95.45	754.550
1140	95.419	754.581
1150	95.45	754.550
1160	95.45	754.550
1170	95.45	754.550
1180	95.45	754.550
1190	95.466	754.534
1200	95.45	754.550
1210	95.45	754.550
1220	95.419	754.581
1230	95.434	754.566
1240	95.45	754.550
1250	95.403	754.597
1260	95.45	754.550
1270	95.45	754.550
1280	95.45	754.550
1290	95.482	754.518
1300	95.45	754.550
1310	95.466	754.534
1320	95.513	754.487
1330	95.45	754.550
1340	95.513	754.487
1350	95.498	754.502
1360	95.498	754.502
1370	95.498	754.502
1380	95.529	754.471
1390	95.529	754.471

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
BCW-3
DRAWDOWN DATA

BCW-3		
ELAPSED TIME SINCE START OF PUMPING (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft. MSL)
1400	95.498	754.502
1410	95.561	754.439
1420	95.513	754.487
1430	95.561	754.439
1440	95.561	754.439

NOTES: 1. PUMPING OF BCW-3 STARTED AT 1600hrs ON 12/11/91.
2. (FT.MSL) - FEET ABOVE MEAN SEA LEVEL.

RAW AND ADJUSTED RECOVERY DATA

AQUIFER PUMPING TEST
 DECEMBER 1991
 PRP-91-01B
 RECOVERY DATA

ELAPSED TIME SINCE 1200Hs ON 12:591 (min)	TIME SINCE PUMP ON (min)	TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS.		RESIDUAL DRAWDOWN (feet)
							GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	BKGD. WATER LEVEL TREND (ft,MSL)	
10350.0	1470	0.0	85.41	765.12	0.42	14.091	765.06	765.033	0.506
10350.1	1470.1	0.1	85.41	765.12	0.42	14.091	765.06	765.033	0.506
10350.2	1470.2	0.2	85.41	765.12	0.42	14.091	765.05	765.027	0.512
10350.3	1470.3	0.3	85.41	765.12	0.42	14.091	765.06	765.033	0.506
10350.4	1470.4	0.4	85.39	765.14	0.40	14.091	765.08	765.052	0.487
10350.5	1470.5	0.5	85.36	765.17	0.37	14.091	765.11	765.083	0.456
10350.6	1470.6	0.6	85.33	765.21	0.33	14.091	765.14	765.115	0.424
10350.7	1470.7	0.7	85.31	765.22	0.31	14.091	765.16	765.134	0.405
10350.8	1470.8	0.8	85.28	765.26	0.28	14.091	765.19	765.165	0.374
10350.9	1470.9	0.9	85.27	765.26	0.28	14.091	765.20	765.172	0.367
10351	1471	1	85.26	765.27	0.27	14.092	765.21	765.184	0.355
10352	1472	2	85.22	765.31	0.23	14.093	765.24	765.216	0.323
10353	1473	3	85.22	765.31	0.23	14.094	765.25	765.222	0.317
10354	1474	4	85.22	765.31	0.23	14.094	765.25	765.222	0.317
10355	1475	5	85.21	765.32	0.22	14.095	765.25	765.228	0.311
10356	1476	6	85.21	765.32	0.22	14.096	765.25	765.229	0.310
10357	1477	7	85.21	765.32	0.22	14.097	765.25	765.229	0.310
10358	1478	8	85.21	765.32	0.22	14.098	765.26	765.229	0.310
10359	1479	9	85.21	765.32	0.22	14.099	765.26	765.229	0.310
10360	1480	10	85.21	765.32	0.22	14.100	765.26	765.229	0.310
10370	1490	20	74.5	765.33	0.21	14.110	765.27	765.243	0.296
10380	1500	30	50.0	765.34	0.20	14.118	765.28	765.257	0.282
10390	1510	40	37.8	765.34	0.20	14.126	765.28	765.257	0.282
10400	1520	50	30.4	765.34	0.20	14.134	765.29	765.258	0.281
10410	1530	60	25.5	765.34	0.20	14.142	765.29	765.259	0.280
10420	1540	70	22.0	765.36	0.18	14.151	765.30	765.272	0.267
10430	1550	80	19.4	765.36	0.18	14.159	765.31	765.279	0.260
10440	1560	90	17.3	765.36	0.18	14.167	765.31	765.280	0.259
10450	1570	100	15.7	765.36	0.18	14.175	765.30	765.274	0.265
10500	1620	150	10.8	765.37	0.17	14.215	765.32	765.291	0.248
10550	1670	200	8.4	765.38	0.16	14.255	765.34	765.307	0.232
10600	1720	250	6.9	765.39	0.14	14.276	765.35	765.321	0.218
10650	1770	300	5.9	765.39	0.14	14.298	765.35	765.323	0.216
10700	1820	350	5.2	765.40	0.14	14.319	765.36	765.330	0.209
10750	1870	400	4.7	765.42	0.12	14.340	765.38	765.351	0.188
10800	1920	450	4.3	765.43	0.11	14.361	765.39	765.359	0.180
10850	1970	500	3.9	765.43	0.11	14.382	765.40	765.361	0.178
10900	2020	550	3.7	765.43	0.11	14.403	765.40	765.368	0.171
10950	2070	600	3.5	765.44	0.10	14.424	765.41	765.376	0.163
11000	2120	650	3.3	765.45	0.09	14.446	765.43	765.390	0.149
11050	2170	700	3.1	765.45	0.09	14.445	765.43	765.394	0.150
11100	2220	750	3.0	765.45	0.09	14.428	765.43	765.387	0.152
11150	2270	800	2.8	765.46	0.08	14.402	765.43	765.393	0.150
11200	2320	850	2.7	765.46	0.08	14.378	765.43	765.392	0.147

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP-91-01B
RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t' TIME SINCE PUMP OFF (min)	y/t	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND. WATER LEVEL TREND (ft,MSL)	CORRECTED RESIDUAL DRAWDOWN (feet)
11250	2370	900	2.6	85.06	765.47	0.07	14.355	765.44	765.394	0.145
11300	2420	950	2.5	85.07	765.46	0.08	14.344	765.43	765.386	0.153
11350	2470	1000	2.5	85.07	765.46	0.08	14.344	765.43	765.385	0.154
11450	2570	1100	2.3	85.04	765.49	0.05	14.337	765.45	765.408	0.131
11510	2630	1160	2.3	85.03	765.50	0.04	14.330	765.46	765.418	0.121
11570	2690	1220	2.2	85.02	765.51	0.03	14.316	765.48	765.428	0.111

AQUICLIF PUMPING TEST

PERFORMER 1991

PRP-91 OIC

RECOVERY DATA

ELAPSED TIME SINCE 1200HRS ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t TIME SINCE PUMP OFF (min)	y'	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGD WATER LEVEL TREND (ft,MSL)	CORRECTED RESIDUAL DRAWDOWN (feet)
10350.0	1470	0.0	-	85.29	765.24	0.34	14.091	765.18	765.150	0.425
10350.1	1470.1	0.1	14701.0	85.29	765.24	0.34	14.091	765.18	765.150	0.425
10350.2	1470.2	0.2	7351.0	85.29	765.24	0.34	14.091	765.18	765.150	0.425
10350.3	1470.3	0.3	4901.0	85.29	765.24	0.34	14.091	765.18	765.150	0.425
10350.4	1470.4	0.4	3529.6	85.28	765.25	0.32	14.091	765.19	765.162	0.413
10350.5	1470.5	0.5	2941.0	85.25	765.28	0.30	14.091	765.21	765.188	0.387
10350.6	1470.6	0.6	2521.1	85.23	765.30	0.28	14.091	765.23	765.207	0.368
10350.7	1470.7	0.7	2206.2	85.22	765.31	0.27	14.091	765.25	765.219	0.356
10350.8	1470.8	0.8	1765.1	85.20	765.33	0.25	14.091	765.26	765.238	0.337
10350.9	1470.9	0.9	1604.8	85.19	765.34	0.23	14.091	765.28	765.251	0.324
10351	1471	1	1471.0	85.18	765.35	0.23	14.092	765.28	765.257	0.318
10352	1472	2	736.0	85.16	765.37	0.20	14.093	765.31	765.283	0.292
10353	1473	3	491.0	85.15	765.38	0.20	14.094	765.32	765.289	0.286
10354	1474	4	368.5	85.15	765.39	0.19	14.094	765.32	765.295	0.280
10355	1475	5	295.0	85.15	765.39	0.19	14.095	765.32	765.295	0.280
10356	1476	6	246.0	85.15	765.39	0.19	14.095	765.32	765.296	0.279
10357	1477	7	211.0	85.15	765.39	0.19	14.097	765.32	765.296	0.279
10358	1478	8	184.8	85.14	765.39	0.18	14.098	765.33	765.303	0.272
10359	1479	9	164.3	85.14	765.39	0.18	14.099	765.33	765.303	0.272
10360	1480	10	148.0	85.15	765.39	0.19	14.100	765.32	765.296	0.279
10370	1490	20	74.5	85.13	765.40	0.18	14.110	765.34	765.310	0.265
10380	1500	30	50.0	85.13	765.40	0.17	14.118	765.34	765.317	0.258
10390	1510	40	37.8	85.13	765.40	0.18	14.126	765.34	765.311	0.264
10400	1520	50	30.4	85.13	765.40	0.17	14.134	765.35	765.318	0.257
10410	1530	60	25.5	85.13	765.40	0.18	14.142	765.34	765.313	0.262
10420	1540	70	22.0	85.12	765.41	0.17	14.151	765.35	765.326	0.249
10430	1550	80	19.4	85.11	765.42	0.16	14.159	765.36	765.333	0.242
10440	1560	90	17.3	85.12	765.41	0.17	14.167	765.35	765.327	0.248
10450	1570	100	15.7	85.13	765.40	0.17	14.175	765.35	765.322	0.253
10500	1620	150	10.8	85.11	765.42	0.16	14.215	765.37	765.339	0.236
10550	1670	200	8.4	85.10	765.43	0.15	14.255	765.38	765.354	0.221
10600	1720	250	6.9	85.10	765.43	0.15	14.276	765.39	765.356	0.219
10650	1770	300	5.9	85.09	765.44	0.14	14.298	765.40	765.365	0.210
10700	1820	350	5.2	85.09	765.44	0.14	14.319	765.40	765.366	0.209
10750	1870	400	4.7	85.07	765.46	0.11	14.340	765.43	765.393	0.182
10800	1920	450	4.3	85.06	765.47	0.11	14.361	765.43	765.400	0.175
10850	1970	500	3.9	85.05	765.47	0.11	14.382	765.44	765.402	0.173
10900	2020	550	3.7	85.06	765.47	0.11	14.403	765.44	765.403	0.172
10950	2070	600	3.5	85.06	765.47	0.10	14.424	765.45	765.412	0.163
11000	2120	650	3.3	85.04	765.49	0.08	14.446	765.47	765.432	0.143
11050	2170	700	3.1	85.04	765.49	0.08	14.445	765.47	765.431	0.144
11100	2220	750	3.0	85.04	765.49	0.07	14.459	765.46	765.422	0.153
11150	2270	800	2.8	85.03	765.50	0.08	14.462	765.47	765.431	0.144

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 FBP - 91 - 01C
 RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t TIME SINCE PUMP OFF (min)	t TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet MSL)	s RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND WATER LEVEL TREND (ft. MSL)		CORRECTED RESIDUAL DRAWDOWN (feet)
								GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft. MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND WATER LEVEL TREND (ft. MSL)	
11200	2320	850	2.7	85.03	765.51	0.07	14.378	765.47	765.433	0.142
11250	2370	900	2.6	85.02	765.51	0.06	14.355	765.48	765.436	0.139
11300	2420	950	2.5	85.03	765.50	0.08	14.344	765.46	765.421	0.154
11350	2470	1000	2.5	85.01	765.52	0.06	14.344	765.48	765.439	0.136
11450	2570	1100	2.3	84.99	765.54	0.04	14.337	765.50	765.456	0.119
11510	2630	1160	2.3	84.98	765.55	0.03	14.330	765.51	765.467	0.108
11570	2690	1220	2.2	84.97	765.56	0.01	14.316	765.52	765.476	0.099

AQUIFER PUMPING TEST

DECEMBER 1991

F8P 91-01D

RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12.5.91 (min)	TIME SINCE PUMP ON (min)	TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (ft. ±)	GROUNDWATER ELEVATION (feet,MSL)		RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION BAR. PRESS. CHANGE (ft,MSL)	GROUNDWATER ELEVATION AND BKGND. WATER LEVEL TREND (ft,MSL)		CORRECTED RESIDUAL DRAWDOWN (feet)
				GROUNDWATER ELEVATION (feet,MSL)	GROUNDWATER ELEVATION (feet,MSL)				GROUNDWATER ELEVATION BAR. PRESS. CHANGE (ft,MSL)	BKGND. WATER LEVEL TREND (ft,MSL)	
10350.0	1470	0.0	-	85.28	765.25	0.28	14.091	765.19	765.19	765.160	0.368
10350.1	1470.1	0.1	14701.0	85.28	765.25	0.28	14.091	765.19	765.19	765.160	0.368
10350.2	1470.2	0.2	7351.0	85.29	765.24	0.29	14.091	765.18	765.18	765.153	0.375
10350.3	1470.3	0.3	4901.0	85.29	765.24	0.29	14.091	765.18	765.18	765.153	0.375
10350.4	1470.4	0.4	3529.6	85.28	765.25	0.28	14.091	765.19	765.19	765.160	0.368
10350.5	1470.5	0.5	2941.0	85.27	765.26	0.27	14.091	765.20	765.20	765.172	0.356
10350.6	1470.6	0.6	2521.1	85.26	765.28	0.25	14.091	765.21	765.21	765.185	0.343
10350.7	1470.7	0.7	2206.2	85.24	765.29	0.24	14.091	765.22	765.22	765.198	0.330
10350.8	1470.8	0.8	1765.1	85.23	765.30	0.23	14.091	765.24	765.24	765.210	0.318
10350.9	1470.9	0.9	1604.8	85.22	765.31	0.22	14.091	765.24	765.24	765.217	0.311
10351	1471	1	1471.0	85.21	765.32	0.21	14.092	765.26	765.26	765.229	0.299
10352	1472	2	736.0	85.19	765.35	0.18	14.093	765.28	765.28	765.255	0.273
10353	1473	3	491.0	85.18	765.35	0.18	14.094	765.29	765.29	765.261	0.267
10354	1474	4	368.5	85.18	765.35	0.18	14.094	765.29	765.29	765.261	0.267
10355	1475	5	295.0	85.17	765.36	0.17	14.095	765.29	765.29	765.267	0.261
10356	1476	6	246.0	85.17	765.36	0.17	14.096	765.29	765.29	765.268	0.260
10357	1477	7	211.0	85.17	765.36	0.17	14.097	765.29	765.29	765.268	0.260
10358	1478	8	184.8	85.17	765.36	0.17	14.098	765.29	765.29	765.268	0.260
10359	1479	9	164.3	85.17	765.36	0.17	14.099	765.29	765.29	765.268	0.260
10360	1480	10	148.0	85.17	765.36	0.17	14.100	765.29	765.29	765.268	0.260
10370	1490	20	74.5	85.16	765.37	0.16	14.110	765.31	765.31	765.282	0.246
10380	1500	30	50.0	85.16	765.37	0.16	14.118	765.31	765.31	765.283	0.245
10390	1510	40	37.8	85.17	765.36	0.16	14.126	765.30	765.30	765.277	0.251
10400	1520	50	30.4	85.17	765.36	0.16	14.134	765.31	765.31	765.278	0.250
10410	1530	60	25.5	85.17	765.36	0.16	14.142	765.31	765.31	765.279	0.249
10420	1540	70	22.0	85.15	765.38	0.15	14.151	765.32	765.32	765.292	0.236
10430	1550	80	19.4	85.15	765.38	0.15	14.159	765.33	765.33	765.299	0.229
10440	1560	90	17.3	85.15	765.38	0.15	14.167	765.32	765.32	765.293	0.235
10450	1570	100	15.7	85.16	765.37	0.16	14.175	765.32	765.32	765.288	0.240
10500	1620	150	10.8	85.15	765.38	0.15	14.215	765.33	765.33	765.298	0.230
10550	1670	200	8.4	85.14	765.39	0.14	14.255	765.34	765.34	765.314	0.214
10600	1720	250	6.9	85.14	765.40	0.13	14.276	765.35	765.35	765.322	0.206
10650	1770	300	5.9	85.14	765.40	0.13	14.298	765.36	765.36	765.324	0.204
10700	1820	350	5.2	85.13	765.40	0.13	14.319	765.36	765.36	765.332	0.196
10750	1870	400	4.7	85.12	765.41	0.11	14.340	765.38	765.38	765.346	0.182
10800	1920	450	4.3	85.11	765.42	0.11	14.361	765.39	765.39	765.353	0.175
10850	1970	500	3.9	85.11	765.42	0.11	14.382	765.39	765.39	765.355	0.173
10900	2020	550	3.7	85.11	765.42	0.11	14.403	765.39	765.39	765.356	0.172
10950	2070	600	3.5	85.10	765.43	0.10	14.424	765.40	765.40	765.365	0.163
11000	2120	650	3.3	85.09	765.45	0.08	14.446	765.42	765.42	765.385	0.143
11050	2170	700	3.1	85.08	765.45	0.08	14.465	765.42	765.42	765.384	0.144
11100	2220	750	3.0	85.09	765.44	0.09	14.483	765.41	765.41	765.375	0.153
11150	2270	800	2.8	85.08	765.45	0.08	14.492	765.42	765.42	765.378	0.150
11200	2320	850	2.7	85.08	765.45	0.08	14.498	765.42	765.42	765.380	0.148

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 PRP- 91-01D
 RECOVERY DATA

ELAPSED TIME SINCE 12:00hrs ON 12:5:91 (min)	↑ TIME SINCE PUMP ON (min)	↑ TIME SINCE PUMP OFF (min)	DEPTH TO WATER		s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CHANGE (ft,MSL)		GROUNDWATER ELEVATION AND BKGND. WATER LEVEL TREND (ft,MSL)		CORRECTED RESIDUAL DRAWDOWN (feet)
			FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)			GROUNDWATER ELEVATION BAR. PRESS. (ft,MSL)	GROUNDWATER ELEVATION AND BKGND. WATER LEVEL TREND (ft,MSL)			
11250	2370	900	2.6	85.07	765.46	14.355	765.42	765.382	765.382	0.146	
11300	2420	950	2.5	85.08	765.45	14.344	765.42	765.374	765.374	0.154	
11350	2470	1000	2.5	85.07	765.47	14.344	765.43	765.386	765.386	0.112	
11450	2570	1100	2.3	85.05	765.48	14.337	765.45	765.403	765.403	0.1	
11510	2630	1160	2.3	85.03	765.50	14.330	765.46	765.413	765.413	0.1	
11570	2690	1220	2.2	85.02	765.51	14.316	765.47	765.423	765.423	0.105	

AQUIFER PUMPING TEST
 DECEMBER 1991
 PWP 91-02B
 RECOVERY DATA

RECOVERY DATA										
ELAPSED TIME SINCE 1200hrs ON PUMP ON 12:5:91 (min)	t TIME SINCE PUMP ON (min)	t TIME SINCE PUMP OFF (min)	y'	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION	GROUNDWATER CORRECTED FOR BAR. PRESS.	GROUNDWATER CORRECTED FOR BAR. PRESS AND BKGND. WATER LEVEL TREND (ft,MSL)
								ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	RESIDUAL DRAWDOWN (feet)	
10350.0	1470	0.0	-	84.66	765.43	0.23	14.091	765.37	765.344	0.323
10350.1	1470.1	0.1	14701.0	84.66	765.43	0.24	14.091	765.36	765.337	0.330
10350.2	1470.2	0.2	7351.0	84.66	765.43	0.23	14.091	765.37	765.344	0.323
10350.3	1470.3	0.3	4901.0	84.66	765.43	0.23	14.091	765.37	765.344	0.323
10350.4	1470.4	0.4	3529.6	84.66	765.43	0.23	14.091	765.37	765.344	0.323
10350.5	1470.5	0.5	2941.0	84.65	765.44	0.23	14.091	765.38	765.350	0.317
10350.6	1470.6	0.6	2521.1	84.64	765.45	0.22	14.091	765.38	765.355	0.311
10350.7	1470.7	0.7	2206.2	84.64	765.45	0.21	14.091	765.39	765.363	0.304
10350.8	1470.8	0.8	1765.1	84.63	765.46	0.21	14.091	765.40	765.369	0.298
10350.9	1470.9	0.9	1604.8	84.63	765.46	0.21	14.091	765.40	765.369	0.298
10351	1471	1	1471.0	84.63	765.47	0.20	14.092	765.40	765.375	0.292
10352	1472	2	736.0	84.61	765.48	0.19	14.093	765.41	765.388	0.279
10353	1473	3	491.0	84.61	765.48	0.18	14.094	765.42	765.394	0.273
10354	1474	4	368.5	84.61	765.48	0.18	14.094	765.42	765.394	0.273
10355	1475	5	295.0	84.60	765.49	0.18	14.095	765.43	765.400	0.267
10356	1476	6	246.0	84.61	765.48	0.18	14.096	765.42	765.395	0.272
10357	1477	7	211.0	84.60	765.49	0.18	14.097	765.43	765.401	0.266
10358	1478	8	184.8	84.60	765.49	0.18	14.098	765.43	765.401	0.266
10359	1479	9	164.3	84.60	765.49	0.18	14.099	765.43	765.401	0.266
10360	1480	10	148.0	84.61	765.48	0.18	14.100	765.42	765.395	0.272
10370	1490	20	74.5	84.59	765.50	0.17	14.110	765.44	765.409	0.258
10380	1500	30	50.0	84.59	765.50	0.17	14.118	765.44	765.410	0.257
10390	1510	40	37.8	84.59	765.50	0.17	14.126	765.44	765.410	0.257
10400	1520	50	30.4	84.59	765.50	0.17	14.134	765.44	765.411	0.256
10410	1530	60	25.5	84.59	765.50	0.17	14.142	765.44	765.412	0.255
10420	1540	70	22.0	84.58	765.51	0.16	14.151	765.45	765.425	0.242
10430	1550	80	19.4	84.57	765.52	0.15	14.159	765.46	765.432	0.235
10440	1560	90	17.3	84.58	765.51	0.16	14.167	765.45	765.426	0.241
10450	1570	100	15.7	84.59	765.50	0.16	14.175	765.45	765.421	0.246
10500	1620	150	10.8	84.58	765.51	0.16	14.215	765.46	765.431	0.236
10550	1670	200	8.4	84.57	765.52	0.15	14.255	765.47	765.441	0.226
10600	1720	250	6.9	84.57	765.52	0.14	14.276	765.48	765.449	0.218
10650	1770	300	5.9	84.56	765.53	0.14	14.298	765.49	765.457	0.210
10700	1820	350	5.2	84.56	765.54	0.13	14.319	765.50	765.465	0.202
10750	1870	400	4.7	84.54	765.55	0.12	14.340	765.51	765.479	0.188
10800	1920	450	4.3	84.54	765.55	0.11	14.361	765.52	765.487	0.180
10850	1970	500	3.9	84.54	765.55	0.11	14.382	765.52	765.489	0.178
10900	2020	550	3.7	84.54	765.55	0.11	14.403	765.53	765.490	0.177
10950	2070	600	3.5	84.52	765.57	0.10	14.424	765.54	765.504	0.163
11000	2120	650	3.3	84.51	765.58	0.09	14.445	765.56	765.518	0.149
11050	2170	700	3.1	84.51	765.58	0.09	14.445	765.56	765.517	0.150
11100	2220	750	3.0	84.51	765.58	0.09	14.428	765.55	765.515	0.152
11150	2270	800	2.8	84.51	765.58	0.09	14.402	765.55	765.511	0.156
11200	2320	850	2.7	84.50	765.59	0.08	14.378	765.56	765.519	0.148

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PRP-91-028
RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGD. WATER LEVEL TREND (ft,MSL)	CORRECTED RESIDUAL DRAWDOWN (feet)
11250	2370	900	84.49	765.60	0.07	14.355	765.56	765.522	0.145
11300	2420	950	84.50	765.59	0.08	14.344	765.56	765.513	0.154
11350	2470	1000	84.49	765.60	0.07	14.344	765.56	765.519	0.148
11450	2570	1100	84.47	765.62	0.04	14.337	765.59	765.542	0.125
11510	2630	1160	84.47	765.62	0.04	14.330	765.59	765.540	0.127
11570	2690	1220	84.45	765.64	0.02	14.316	765.60	765.556	0.111

AQUIFER PUMPING TEST
DECEMBER 1991
PBP - 91 - 02C
RECOVERY DATA

RECOVERY DATA													
ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	TIME SINCE PUMP ON (min)	TIME SINCE PUMP OFF (min)	VT (ft)	DEPTH TO WATER		GROUNDWATER ELEVATION (feet,MSL)	s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)		GROUNDWATER ELEVATION CORRECTED FOR BAR PRESS. AND BKGD. WATER LEVEL TREND (ft,MSL)		CORRECTED RESIDUAL DRAWDOWN (feet)
				FROM TOP OF CASING (feet)	GROUNDWATER				BAR. PRESS.	BAR. PRESS.			
10350.0	1470	0.0	-	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.1	1470.1	0.1	14701.0	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.2	1470.2	0.2	7351.0	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.3	1470.3	0.3	4901.0	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.4	1470.4	0.4	3529.6	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.5	1470.5	0.5	2941.0	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.6	1470.6	0.6	2521.1	84.47	765.62	0.05	14.091	765.56	765.56	765.532	0.260	0.260	
10350.7	1470.7	0.7	2206.2	84.46	765.63	0.04	14.091	765.57	765.57	765.541	0.251	0.251	
10350.8	1470.8	0.8	1765.1	84.45	765.64	0.03	14.091	765.58	765.58	765.551	0.241	0.241	
10350.9	1470.9	0.9	1604.8	84.44	765.65	0.02	14.091	765.59	765.59	765.560	0.232	0.232	
10351	1471	1	1471.0	84.44	765.65	0.02	14.092	765.59	765.59	765.560	0.232	0.232	
10352	1472	2	736.0	84.42	765.67	0.00	14.093	765.61	765.61	765.579	0.213	0.213	
10353	1473	3	491.0	84.42	765.67	0.00	14.094	765.61	765.61	765.579	0.213	0.213	
10354	1474	4	368.5	84.41	765.68	-0.01	14.094	765.62	765.62	765.589	0.203	0.203	
10355	1475	5	295.0	84.40	765.69	-0.02	14.095	765.62	765.62	765.598	0.194	0.194	
10356	1476	6	246.0	84.40	765.69	-0.02	14.096	765.62	765.62	765.599	0.193	0.193	
10357	1477	7	211.0	84.41	765.68	-0.01	14.097	765.62	765.62	765.590	0.202	0.202	
10358	1478	8	184.8	84.40	765.69	-0.02	14.098	765.63	765.63	765.599	0.193	0.193	
10359	1479	9	164.3	84.41	765.68	-0.01	14.099	765.62	765.62	765.590	0.202	0.202	
10360	1480	10	148.0	84.41	765.68	-0.01	14.100	765.62	765.62	765.590	0.202	0.202	
10370	1490	20	74.5	84.40	765.69	-0.02	14.110	765.63	765.63	765.600	0.192	0.192	
10380	1500	30	50.0	84.40	765.69	-0.02	14.118	765.63	765.63	765.601	0.191	0.191	
10390	1510	40	37.8	84.40	765.69	-0.02	14.126	765.63	765.63	765.601	0.191	0.191	
10400	1520	50	30.4	84.41	765.68	-0.01	14.134	765.62	765.62	765.593	0.199	0.199	
10410	1530	60	25.5	84.41	765.68	-0.01	14.142	765.62	765.62	765.594	0.198	0.198	
10420	1540	70	22.0	84.40	765.69	-0.02	14.151	765.63	765.63	765.604	0.188	0.188	
10430	1550	80	19.4	84.40	765.69	-0.02	14.159	765.63	765.63	765.604	0.188	0.188	
10440	1560	90	17.3	84.41	765.68	-0.01	14.167	765.62	765.62	765.596	0.196	0.196	
10450	1570	100	15.7	84.42	765.67	0.00	14.175	765.61	765.61	765.587	0.205	0.205	
10500	1620	150	10.8	84.42	765.67	0.00	14.215	765.62	765.62	765.591	0.201	0.201	
10550	1670	200	8.4	84.41	765.68	-0.01	14.255	765.63	765.63	765.604	0.188	0.188	
10600	1720	250	6.9	84.40	765.69	-0.02	14.276	765.65	765.65	765.615	0.177	0.177	
10650	1770	300	5.9	84.39	765.70	-0.03	14.298	765.66	765.66	765.626	0.166	0.166	
10700	1820	350	5.2	84.38	765.71	-0.04	14.319	765.67	765.67	765.637	0.155	0.155	
10750	1870	400	4.7	84.37	765.72	-0.05	14.340	765.68	765.68	765.648	0.144	0.144	
10800	1920	450	4.3	84.36	765.73	-0.06	14.361	765.69	765.69	765.659	0.133	0.133	
10850	1970	500	3.9	84.36	765.73	-0.06	14.382	765.70	765.70	765.661	0.131	0.131	
10900	2020	550	3.7	84.36	765.74	0.07	14.403	765.71	765.71	765.671	0.121	0.121	
10950	2070	600	3.5	84.36	765.74	-0.07	14.424	765.71	765.71	765.673	0.119	0.119	
11000	2120	650	3.3	84.34	765.75	0.09	14.446	765.73	765.73	765.683	0.099	0.099	
11050	2170	700	3.1	84.34	765.75	0.09	14.445	765.73	765.73	765.692	0.100	0.100	
11100	2220	750	3.0	84.34	765.75	0.09	14.428	765.73	765.73	765.696	0.102	0.102	
11150	2270	800	2.8	84.34	765.75	0.09	14.402	765.73	765.73	765.696	0.102	0.102	
11200	2320	850	2.7	84.33	765.76	0.10	14.378	765.73	765.73	765.694	0.101	0.101	

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 PBP-91-02C
 RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	↑ TIME SINCE PUMP ON (min)	↑ TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND WATER LEVEL TREND (ft,MSL)	CORRECTED RESIDUAL DRAWDOWN (feet)
11250	2370	900	84.33	765.76	-0.10	14.355	765.73	765.687	0.105
11300	2420	950	84.34	765.75	-0.09	14.344	765.72	765.676	0.116
11350	2470	1000	84.33	765.76	-0.10	14.344	765.73	765.684	0.108
11450	2570	1100	84.30	765.79	-0.13	14.337	765.76	765.711	0.081
11510	2630	1160	84.30	765.79	-0.13	14.330	765.76	765.709	0.083
11570	2690	1220	84.28	765.81	-0.14	14.316	765.77	765.725	0.067

ACQUIFER PUMPING TEST
 DECEMBER 1991
 PBP-91-020
 RECOVERY DATA

RECOVERY DATA												
ELAPSED TIME SINCE 1200hrs ON 12:59 (min)	t TIME SINCE PUMP ON (min)	t' TIME SINCE PUMP OFF (min)	t/t'	DEPTH TO WATER		RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR PRESS. CHANGE (ft./MSL)		GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND. WATER LEVEL TREND (ft./MSL)		CORRECTED RESIDUAL DRAWDOWN (feet)
				FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)			BAR PRESS. CHANGE (ft./MSL)	BKGD. WATER LEVEL TREND (ft./MSL)			
10350.0	1470	0.0	-	84.28	765.81	0.15	14.091	765.75	765.722	765.722	0.242	
10350.1	1470.1	0.1	14701.0	84.31	765.78	0.18	14.091	765.72	765.693	765.693	0.271	
10350.2	1470.2	0.2	7351.0	84.30	765.79	0.17	14.091	765.73	765.703	765.703	0.261	
10350.3	1470.3	0.3	4901.0	84.30	765.79	0.17	14.091	765.73	765.703	765.703	0.261	
10350.4	1470.4	0.4	3529.6	84.29	765.80	0.16	14.091	765.74	765.712	765.712	0.252	
10350.5	1470.5	0.5	2941.0	84.29	765.80	0.16	14.091	765.74	765.712	765.712	0.252	
10350.6	1470.6	0.6	2521.1	84.28	765.81	0.15	14.091	765.75	765.722	765.722	0.242	
10350.7	1470.7	0.7	2206.2	84.28	765.81	0.15	14.091	765.75	765.722	765.722	0.242	
10350.8	1470.8	0.8	1765.1	84.26	765.83	0.13	14.091	765.77	765.741	765.741	0.223	
10350.9	1470.9	0.9	1604.8	84.26	765.83	0.13	14.091	765.77	765.741	765.741	0.223	
10351	1471	1	1471.0	84.26	765.83	0.13	14.092	765.77	765.741	765.741	0.223	
10352	1472	2	736.0	84.23	765.86	0.10	14.093	765.80	765.769	765.769	0.195	
10353	1473	3	491.0	84.22	765.87	0.09	14.094	765.81	765.779	765.779	0.185	
10354	1474	4	368.5	84.22	765.87	0.09	14.094	765.81	765.779	765.779	0.185	
10355	1475	5	295.0	84.21	765.88	0.09	14.095	765.81	765.788	765.788	0.176	
10356	1476	6	246.0	84.21	765.88	0.09	14.096	765.81	765.789	765.789	0.175	
10357	1477	7	211.0	84.21	765.88	0.09	14.097	765.81	765.789	765.789	0.175	
10358	1478	8	184.8	84.21	765.88	0.09	14.098	765.82	765.789	765.789	0.175	
10359	1479	9	164.3	84.22	765.87	0.09	14.099	765.81	765.780	765.780	0.184	
10360	1480	10	148.0	84.22	765.87	0.09	14.100	765.81	765.780	765.780	0.184	
10370	1490	20	74.5	84.22	765.87	0.09	14.110	765.81	765.781	765.781	0.183	
10380	1500	30	50.0	84.23	765.86	0.10	14.118	765.80	765.772	765.772	0.192	
10390	1510	40	37.8	84.23	765.86	0.10	14.126	765.80	765.772	765.772	0.192	
10400	1520	50	30.4	84.24	765.85	0.11	14.134	765.79	765.764	765.764	0.200	
10410	1530	60	25.5	84.25	765.84	0.12	14.142	765.78	765.755	765.755	0.209	
10420	1540	70	22.0	84.24	765.85	0.11	14.151	765.79	765.766	765.766	0.198	
10430	1550	80	19.4	84.24	765.85	0.11	14.159	765.79	765.766	765.766	0.198	
10440	1560	90	17.3	84.24	765.85	0.11	14.167	765.79	765.767	765.767	0.197	
10450	1570	100	15.7	84.25	765.84	0.12	14.175	765.79	765.758	765.758	0.206	
10500	1620	150	10.8	84.23	765.86	0.10	14.215	765.81	765.781	765.781	0.183	
10550	1670	200	8.4	84.20	765.89	0.08	14.255	765.84	765.813	765.813	0.151	
10600	1720	250	6.9	84.19	765.90	0.07	14.276	765.85	765.824	765.824	0.140	
10650	1770	300	5.9	84.18	765.91	0.06	14.298	765.87	765.836	765.836	0.128	
10700	1820	350	5.2	84.18	765.91	0.06	14.319	765.87	765.837	765.837	0.127	
10750	1870	400	4.7	84.17	765.92	0.05	14.340	765.88	765.848	765.848	0.116	
10800	1920	450	4.3	84.16	765.93	0.04	14.361	765.89	765.859	765.859	0.105	
10850	1970	500	3.9	84.16	765.93	0.04	14.382	765.90	765.861	765.861	0.103	
10900	2020	550	3.7	84.16	765.93	0.04	14.403	765.90	765.862	765.862	0.102	
10950	2070	600	3.5	84.16	765.94	0.03	14.424	765.91	765.873	765.873	0.091	
11000	2120	650	3.3	84.15	765.95	0.02	14.446	765.92	765.884	765.884	0.080	
11050	2170	700	3.1	84.15	765.95	0.02	14.467	765.92	765.893	765.893	0.081	
11100	2220	750	3.0	84.15	765.95	0.02	14.488	765.92	765.891	765.891	0.083	
11150	2270	800	2.8	84.14	765.95	0.01	14.509	765.93	765.895	765.895	0.078	
11200	2320	850	2.7	84.14	765.95	0.01	14.530	765.92	765.892	765.892	0.082	

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
PBP - 91 - 02D
RECOVERY DATA

RECOVERY DATA										
ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t' TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER	GROUNDWATER	GROUNDWATER	
							ELEVATION	CORRECTED FOR	ELEVATION	
							BAR. PRESS.	BAR. PRESS.	BAR. PRESS.	
							CHANGE	CHANGE	AND	
							(ft,MSL)	(ft,MSL)	LEVEL TREND	
									DRAWDOWN	
									(feet)	

AQUIFER PUMPING TEST

DECEMBER 1991

PRN - 91 - 06C

RECOVERY DATA

ELAPSED TIME SINCE 12:59:01 (min)	TIME SINCE PUMP ON (min)	TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND. WATER LEVEL TEND		CORRECTED RESIDUAL DRAWDOWN (feet)
							CHANGE (ft,MSL)	(ft,MSL)	
10350.0	1470	0.0	83.09	765.20	0.22	14.091	765.13	765.106	0.309
10350.1	1470.1	0.1	83.09	765.20	0.22	14.091	765.13	765.106	0.309
10350.2	1470.2	0.2	83.09	765.20	0.22	14.091	765.14	765.109	0.306
10350.3	1470.3	0.3	83.09	765.20	0.21	14.091	765.14	765.113	0.302
10350.4	1470.4	0.4	83.08	765.21	0.21	14.091	765.15	765.119	0.296
10350.5	1470.5	0.5	83.08	765.22	0.20	14.091	765.15	765.125	0.290
10350.6	1470.6	0.6	83.07	765.22	0.20	14.091	765.16	765.128	0.287
10350.7	1470.7	0.7	83.07	765.22	0.19	14.091	765.16	765.132	0.283
10350.8	1470.8	0.8	83.06	765.23	0.19	14.091	765.16	765.138	0.277
10350.9	1470.9	0.9	83.06	765.23	0.18	14.091	765.17	765.141	0.274
10351	1471	1	83.06	765.23	0.18	14.092	765.17	765.144	0.271
10352	1472	2	83.04	765.25	0.17	14.093	765.18	765.157	0.258
10353	1473	3	83.04	765.25	0.17	14.094	765.18	765.157	0.258
10354	1474	4	83.04	765.25	0.17	14.094	765.19	765.160	0.255
10355	1475	5	83.04	765.25	0.16	14.095	765.19	765.163	0.252
10356	1476	6	83.04	765.25	0.17	14.096	765.19	765.161	0.254
10357	1477	7	83.04	765.25	0.17	14.097	765.19	765.161	0.254
10358	1478	8	83.04	765.25	0.17	14.098	765.19	765.161	0.254
10359	1479	9	83.04	765.25	0.17	14.099	765.19	765.161	0.254
10360	1480	10	83.04	765.25	0.17	14.100	765.19	765.161	0.254
10370	1490	20	83.03	765.26	0.16	14.110	765.20	765.169	0.246
10380	1500	30	83.03	765.26	0.16	14.118	765.20	765.170	0.245
10390	1510	40	83.04	765.25	0.16	14.126	765.19	765.166	0.249
10400	1520	50	83.04	765.25	0.17	14.134	765.19	765.164	0.251
10410	1530	60	83.04	765.25	0.17	14.142	765.19	765.162	0.253
10420	1540	70	83.04	765.25	0.16	14.151	765.20	765.169	0.246
10430	1550	80	83.03	765.26	0.16	14.159	765.20	765.176	0.239
10440	1560	90	83.03	765.26	0.16	14.167	765.20	765.174	0.241
10450	1570	100	83.04	765.25	0.17	14.175	765.19	765.165	0.250
10500	1620	150	83.03	765.26	0.16	14.215	765.21	765.179	0.236
10550	1670	200	83.03	765.26	0.15	14.255	765.22	765.188	0.227
10600	1720	250	83.02	765.27	0.14	14.276	765.23	765.199	0.216
10650	1770	300	83.01	765.28	0.14	14.298	765.24	765.205	0.210
10700	1820	350	83.01	765.28	0.13	14.319	765.24	765.212	0.203
10750	1870	400	82.99	765.30	0.11	14.340	765.27	765.233	0.182
10800	1920	450	82.98	765.31	0.11	14.361	765.27	765.240	0.175
10850	1970	500	82.98	765.31	0.11	14.382	765.28	765.242	0.173
10900	2020	550	82.98	765.31	0.11	14.403	765.28	765.243	0.172
10950	2070	600	82.97	765.32	0.10	14.424	765.29	765.255	0.160
11000	2120	650	82.96	765.33	0.08	14.445	765.31	765.272	0.143
11050	2170	700	82.96	765.33	0.08	14.445	765.31	765.271	0.141

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 PBN - 91 - 06C
 RECOVERY DATA

ELAPSED TIME SINCE 1200Hs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	s' RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft,MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND. WATER LEVEL TREND (ft,MSL)	CORRECTED RESIDUAL DRAWDOWN (feet)
11100	2220	750	82.96	765.33	0.08	14.428	765.31	765.266	0.149
11150	2270	800	82.95	765.34	0.08	14.402	765.31	765.268	0.147
11200	2320	850	82.95	765.34	0.07	14.378	765.31	765.270	0.145
11250	2370	900	82.94	765.35	0.07	14.355	765.32	765.273	0.142
11300	2420	950	82.95	765.35	0.07	14.344	765.31	765.267	0.148
11350	2470	1000	82.94	765.35	0.07	14.344	765.31	765.270	0.145
11450	2570	1100	82.92	765.37	0.04	14.337	765.34	765.290	0.125
11510	2630	1160	82.91	765.38	0.04	14.330	765.34	765.294	0.121
11570	2690	1220	82.89	765.40	0.02	14.316	765.36	765.313	0.102

AQUIFER PUMPING TEST
 DECEMBER 1991
 PRN 91-06D
 RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t TIME SINCE PUMP OFF (min)	Vt (in)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet MSL)	s RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. CHANGE (ft. MSL)	GROUNDWATER ELEVATION CORRECTED FOR BAR. PRESS. AND BKGND. WATER LEVEL TREND (ft. MSL)	CORRECTED RESIDUAL DRAWDOWN (feet)
10350.0	1470	0.0	-	82.27	765.24	0.21	14.091	765.17	765.145	0.300
10350.1	1470.1	0.1	14701.0	82.27	765.24	0.21	14.091	765.17	765.145	0.300
10350.2	1470.2	0.2	7351.0	82.27	765.24	0.21	14.091	765.17	765.145	0.300
10350.3	1470.3	0.3	4901.0	82.26	765.24	0.21	14.091	765.18	765.149	0.296
10350.4	1470.4	0.4	3529.6	82.26	765.25	0.20	14.091	765.18	765.155	0.290
10350.5	1470.5	0.5	2941.0	82.25	765.25	0.19	14.091	765.19	765.161	0.284
10350.6	1470.6	0.6	2521.1	82.24	765.26	0.19	14.091	765.19	765.168	0.277
10350.7	1470.7	0.7	2206.2	82.24	765.26	0.18	14.091	765.20	765.171	0.274
10350.8	1470.8	0.8	1765.1	82.23	765.27	0.18	14.091	765.20	765.177	0.268
10350.9	1470.9	0.9	1604.8	82.23	765.27	0.17	14.091	765.21	765.180	0.265
10351	1471	1	1471.0	82.23	765.27	0.17	14.092	765.21	765.180	0.265
10352	1472	2	736.0	82.22	765.28	0.16	14.093	765.22	765.193	0.252
10353	1473	3	491.0	82.21	765.29	0.16	14.094	765.22	765.196	0.249
10354	1474	4	368.5	82.21	765.29	0.16	14.094	765.23	765.199	0.246
10355	1475	5	295.0	82.21	765.29	0.15	14.095	765.23	765.202	0.243
10356	1476	6	246.0	82.21	765.29	0.15	14.096	765.23	765.203	0.242
10357	1477	7	211.0	82.21	765.29	0.15	14.097	765.23	765.203	0.242
10358	1478	8	184.8	82.21	765.29	0.16	14.098	765.23	765.200	0.245
10359	1479	9	164.3	82.21	765.29	0.16	14.099	765.23	765.200	0.245
10360	1480	10	148.0	82.21	765.29	0.16	14.100	765.23	765.200	0.245
10370	1490	20	74.5	82.21	765.29	0.16	14.110	765.23	765.201	0.244
10380	1500	30	50.0	82.20	765.30	0.15	14.118	765.24	765.212	0.233
10390	1510	40	37.8	82.21	765.29	0.15	14.126	765.23	765.205	0.240
10400	1520	50	30.4	82.21	765.29	0.16	14.134	765.23	765.203	0.242
10410	1530	60	25.5	82.21	765.29	0.16	14.142	765.23	765.204	0.241
10420	1540	70	22.0	82.20	765.30	0.15	14.151	765.24	765.212	0.233
10430	1550	80	19.4	82.20	765.30	0.14	14.159	765.25	765.218	0.227
10440	1560	90	17.3	82.20	765.30	0.15	14.167	765.24	765.216	0.229
10450	1570	100	15.7	82.21	765.29	0.15	14.175	765.24	765.210	0.235
10500	1620	150	10.8	82.20	765.30	0.15	14.215	765.25	765.221	0.224
10550	1670	200	8.4	82.19	765.31	0.14	14.255	765.26	765.233	0.212
10600	1720	250	6.9	82.19	765.32	0.13	14.276	765.27	765.242	0.203
10650	1770	300	5.9	82.18	765.32	0.12	14.298	765.28	765.250	0.195
10700	1820	350	5.2	82.18	765.32	0.12	14.319	765.29	765.254	0.191
10750	1870	400	4.7	82.16	765.34	0.10	14.340	765.30	765.272	0.173
10800	1920	450	4.3	82.15	765.35	0.10	14.361	765.31	765.279	0.166
10850	1970	500	3.9	82.15	765.35	0.10	14.382	765.32	765.281	0.164
10900	2020	550	3.7	82.15	765.35	0.10	14.403	765.32	765.282	0.163
10950	2070	600	3.5	82.14	765.36	0.09	14.424	765.33	765.297	0.148
11000	2120	650	3.3	82.13	765.37	0.07	14.446	765.35	765.311	0.134
11050	2170	700	3.1	82.13	765.37	0.07	14.445	765.35	765.310	0.135
11100	2220	750	3.0	82.13	765.37	0.08	14.428	765.34	765.305	0.140
11150	2270	800	2.8	82.12	765.38	0.07	14.402	765.35	765.310	0.135
11200	2320	850	2.7	82.12	765.38	0.06	14.378	765.35	765.312	0.133

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 PBN - 91 - 06D
 RECOVERY DATA

ELAPSED TIME SINCE 1200hrs ON 12/5/91 (min)	t TIME SINCE PUMP ON (min)	t' TIME SINCE PUMP OFF (min)	DEPTH TO WATER FROM TOP OF CASING (feet)	GROUNDWATER ELEVATION (feet,MSL)	RESIDUAL DRAWDOWN (feet)	BAROMETRIC PRESSURE (PSI)	GROUNDWATER ELEVATION CORRECTED FOR		CORRECTED RESIDUAL DRAWDOWN (feet)
							BAR. PRESS.	BKGD. WATER LEVEL TREND (ft,MSL)	
11250	2370	900	82.11	765.39	0.05	14.355	765.36	765.315	0.130
11300	2420	950	82.11	765.39	0.06	14.344	765.35	765.310	0.135
11350	2470	1000	82.10	765.40	0.05	14.344	765.36	765.318	0.127
11450	2570	1100	82.08	765.42	0.03	14.337	765.38	765.335	0.110
11510	2630	1160	82.08	765.42	0.03	14.330	765.38	765.336	0.109
11570	2690	1220	82.06	765.44	0.01	14.316	765.40	765.352	0.093

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
BCW-3
RECOVERY DATA

BCW-3		
ELAPSED TIME		
SINCE PUMP	DEPTH TO	WATER
OFF	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
0	95.529	754.471
0.0083	95.513	754.487
0.0166	95.545	754.455
0.025	95.466	754.534
0.0333	95.482	754.518
0.0416	95.529	754.471
0.05	95.498	754.502
0.0583	95.529	754.471
0.0666	95.529	754.471
0.075	95.513	754.487
0.0833	95.577	754.423
0.1	95.466	754.534
0.1166	95.545	754.455
0.1333	95.466	754.534
0.15	95.513	754.487
0.1666	95.529	754.471
0.1833	95.529	754.471
0.2	95.529	754.471
0.2166	95.529	754.471
0.2333	95.529	754.471
0.25	94.818	755.182
0.2666	93.839	756.161
0.2833	92.576	757.424
0.3	91.707	758.293
0.3166	90.886	759.114
0.3333	90.112	759.888
0.4166	87.458	762.542
0.5	86.116	763.884
0.5833	85.658	764.342
0.6666	85.610	764.390
0.75	85.531	764.469
0.8333	85.436	764.564
0.9166	85.373	764.627
1	85.357	764.643
1.0933	85.342	764.658
1.1666	85.310	764.690
1.25	85.326	764.674
1.3333	85.294	764.706
1.4166	85.278	764.722
1.5	85.263	764.737

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
BCW-3
RECOVERY DATA

BCW-3		
ELAPSED TIME		
SINCE PUMP	DEPTH TO	WATER
OFF	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
1.5833	85.294	764.706
1.6666	85.294	764.706
1.75	85.278	764.722
1.8333	85.278	764.722
1.9166	85.278	764.722
2	85.278	764.722
2.5	85.294	764.706
3	85.294	764.706
3.5	85.278	764.722
4	85.294	764.706
4.5	85.294	764.706
5	85.278	764.722
5.5	85.278	764.722
6	85.278	764.722
6.5	85.263	764.737
7	85.278	764.722
7.5	85.278	764.722
8	85.278	764.722
8.5	85.278	764.722
9	85.294	764.706
9.5	85.294	764.706
10	85.294	764.706
12	85.294	764.706
14	85.294	764.706
16	85.31	764.690
18	85.294	764.706
20	85.294	764.706
22	85.294	764.706
24	85.294	764.706
26	85.294	764.706
28	85.294	764.706
30	85.294	764.706
32	85.294	764.706
34	85.294	764.706
36	85.294	764.706
38	85.294	764.706
40	85.294	764.706
42	85.294	764.706
44	85.294	764.706
46	85.294	764.706

SADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 RECOVERY DATA

BCW-3		
ELAPSED TIME		
SINCE PUMP	DEPTH TO	WATER
OFF	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
48	85.294	764.706
50	85.294	764.706
52	85.294	764.706
54	85.294	764.706
56	85.294	764.706
58	85.294	764.706
60	85.294	764.706
62	85.278	764.722
64	85.278	764.722
66	85.278	764.722
68	85.278	764.722
70	85.278	764.722
72	85.278	764.722
74	85.263	764.737
76	85.263	764.737
78	85.263	764.737
80	85.263	764.737
82	85.263	764.737
84	85.263	764.737
86	85.263	764.737
88	85.278	764.722
90	85.263	764.737
92	85.263	764.737
94	85.263	764.737
96	85.278	764.722
98	85.278	764.722
100	85.278	764.722
110	85.263	764.737
120	85.263	764.737
130	85.263	764.737
140	85.247	764.753
150	85.263	764.737
160	85.247	764.753
170	85.263	764.737
180	85.247	764.753
190	85.231	764.769
200	85.247	764.753
210	85.231	764.769
220	85.231	764.769
230	85.231	764.769

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 RECOVERY DATA

BCW-3		
ELAPSED TIME		
SINCE PUMP	DEPTH TO	WATER
OFF	WATER	ELEVATION
(min)	(feet)	(ft. MSL)
240	85.231	764.769
250	85.231	764.769
260	85.231	764.769
270	85.231	764.769
280	85.231	764.769
290	85.231	764.769
300	85.231	764.769
310	85.215	764.785
320	85.231	764.769
330	85.231	764.769
340	85.215	764.785
350	85.215	764.785
360	85.215	764.785
370	85.215	764.785
380	85.215	764.785
390	85.215	764.785
400	85.2	764.800
410	85.2	764.800
420	85.184	764.816
430	85.2	764.800
440	85.2	764.800
450	85.2	764.800
460	85.184	764.816
470	85.184	764.816
480	85.184	764.816
490	85.2	764.800
500	85.2	764.800
510	85.184	764.816
520	85.184	764.816
530	85.184	764.816
540	85.184	764.816
550	85.2	764.800
560	85.184	764.816
570	85.184	764.816
580	85.184	764.816
590	85.184	764.816
600	85.184	764.816
610	85.184	764.816
620	85.168	764.832
630	85.168	764.832

BADGER ARMY AMMUNITION PLANT
 AQUIFER PUMPING TEST
 DECEMBER 1991
 BCW-3
 RECOVERY DATA

BCW-3		
ELAPSED TIME		
SINCE PUMP	DEPTH TO	WATER
OFF	WATER	ELEVATION
(min)	(feet)	(ft.MSL)
640	85.168	764.832
650	85.168	764.832
660	85.168	764.832
670	85.168	764.832
680	85.168	764.832
690	85.168	764.832
700	85.168	764.832
710	85.168	764.832
720	85.168	764.832
730	85.168	764.832
740	85.168	764.832
750	85.168	764.832
760	85.168	764.832
770	85.152	764.848
780	85.152	764.848
790	85.152	764.848
800	85.152	764.848
810	85.152	764.848
820	85.152	764.848
830	85.152	764.848
840	85.152	764.848
850	85.152	764.848
860	85.152	764.848
870	85.152	764.848
880	85.152	764.848
890	85.152	764.848
900	85.136	764.864
910	85.136	764.864
920	85.136	764.864
930	85.136	764.864
940	85.152	764.848
950	85.152	764.848
960	85.152	764.848
970	85.136	764.864
980	85.152	764.848
990	85.152	764.848
1000	85.152	764.848
1010	85.152	764.848
1020	85.152	764.848
1030	85.152	764.848

BADGER ARMY AMMUNITION PLANT
AQUIFER PUMPING TEST
DECEMBER 1991
BCW-3
RECOVERY DATA

BCW-3		
ELAPSED TIME SINCE PUMP OFF (min)	DEPTH TO WATER (feet)	WATER ELEVATION (ft.MSL)
1040	85.136	764.864
1050	85.136	764.864
1060	85.136	764.864
1070	85.136	764.864
1080	85.136	764.864
1090	85.136	764.864
1100	85.121	764.879
1110	85.121	764.879
1120	85.121	764.879
1130	85.121	764.879
1140	85.105	764.895
1150	85.121	764.879
1160	85.121	764.879
1170	85.121	764.879
1180	85.121	764.879
1190	85.105	764.895
1200	85.105	764.895
1210	85.105	764.895
1220	85.089	764.911

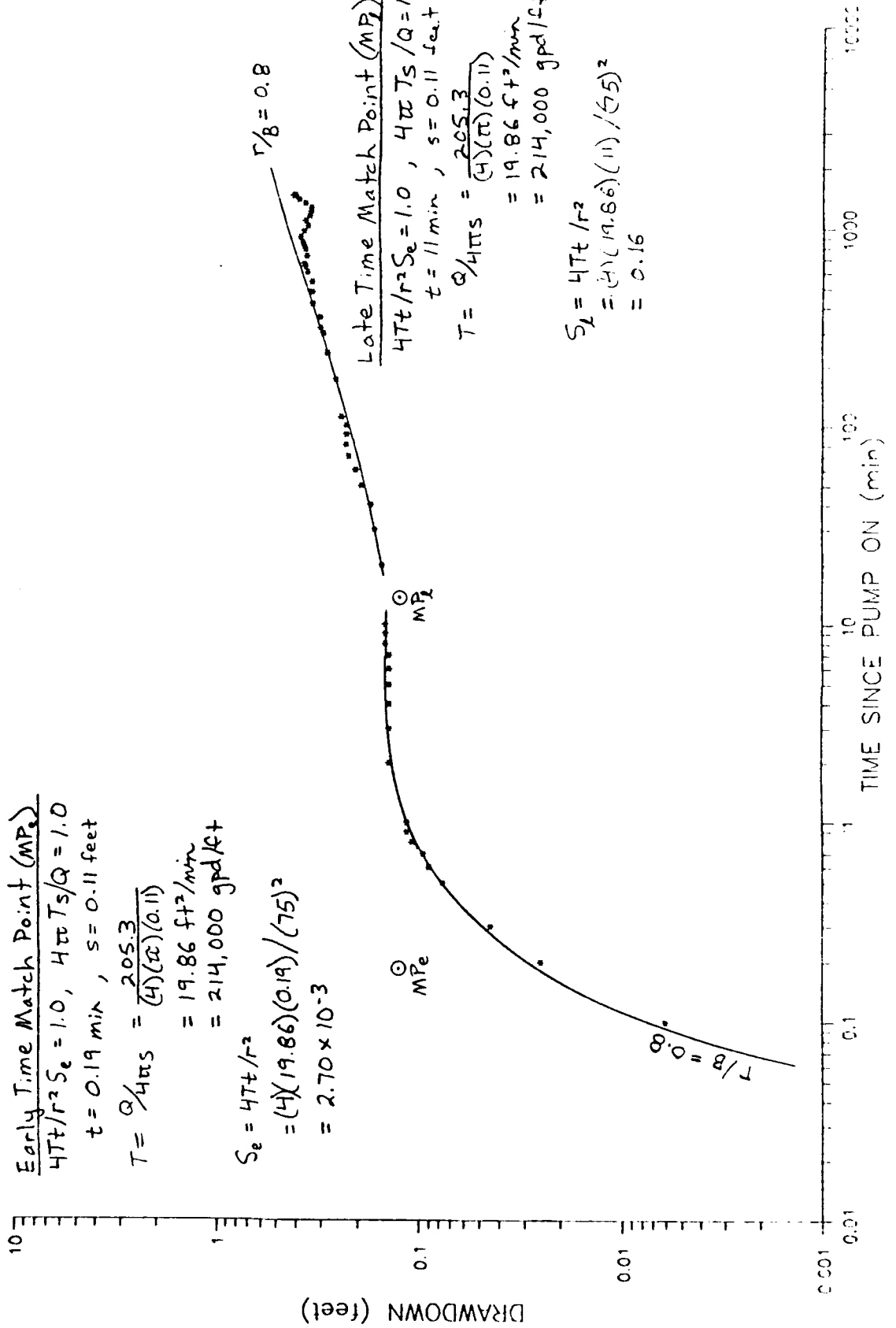
- NOTES:
1. PUMPING OF BCW-3 TERMINATED AT 1630hrs ON 12/12/91.
 2. (FT,MSL) - FEET ABOVE MEAN SEA LEVEL.

BOULTON DELAYED-YIELD METHOD ANALYSES

PBP-91-01C

Early Time Match Point (MP_e)
 $4Tt/r^2 S_e = 1.0, 4\pi Ts/Q = 1.0$
 $t = 0.19 \text{ min}, s = 0.11 \text{ feet}$
 $T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.11)}$
 $= 19.86 \text{ ft}^2/\text{min}$
 $= 214,000 \text{ gpd/ft}$
 $S_e = 4Tt/r^2$
 $= (4)(19.86)(0.19)/(75)^2$
 $= 2.70 \times 10^{-3}$

Late Time Match Point (MP_l)
 $4Tt/r^2 S_e = 1.0, 4\pi Ts/Q = 1.0$
 $t = 11 \text{ min}, s = 0.11 \text{ feet}$
 $T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.11)}$
 $= 19.86 \text{ ft}^2/\text{min}$
 $= 214,000 \text{ gpd/ft}$
 $S_l = 4Tt/r^2$
 $= (4)(19.86)(11)/(75)^2$
 $= 0.16$



PBP-91-01D

Early Time Match Point (MP_e)
 $4Tt/r^2 S_e = 1.0$, $4\pi Ts/Q = 1.0$
 $t = 0.21 \text{ min}$, $s = 0.1 \text{ feet}$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.1)}$$

$$= 21.84 \text{ ft}^2/\text{min}$$

$$= 235,000 \text{ gpd/ft}$$

$$S_e = 4Tt/r^2$$

$$= (4)(21.84)(0.21)/(65)^2$$

$$= 3.30 \times 10^{-3}$$

Late Time Match Point (MP_l)
 $4Tt/r^2 S_l = 1.0$, $4\pi Ts/Q = 1.0$
 $t = 11 \text{ min}$, $s = 0.1 \text{ feet}$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.1)}$$

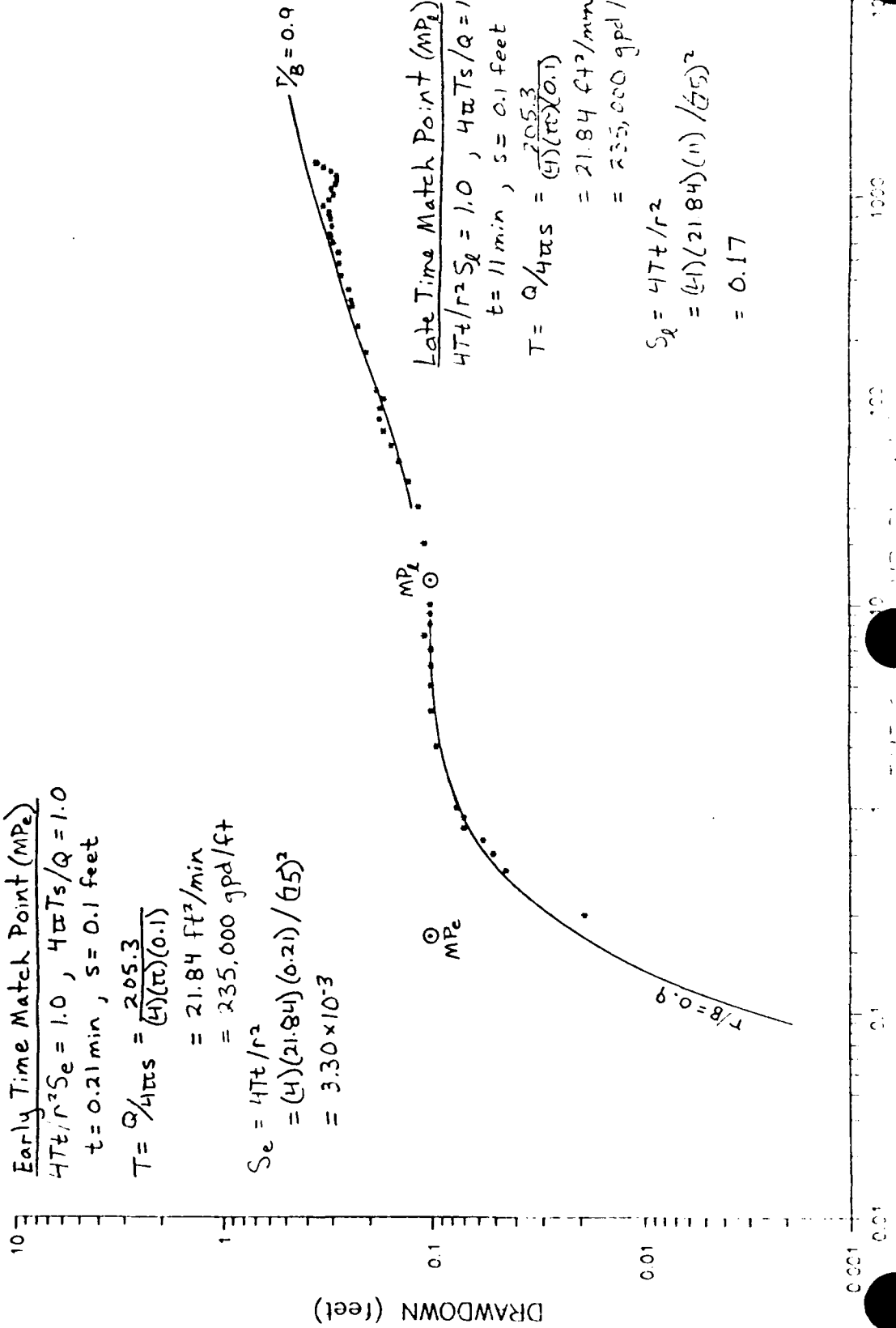
$$= 21.84 \text{ ft}^2/\text{min}$$

$$= 235,000 \text{ gpd/ft}$$

$$S_l = 4Tt/r^2$$

$$= (4)(21.84)(11)/(65)^2$$

$$= 0.17$$



PBP-91-02B

Early Time Match Point (MP_e)

$$4Tt/r^2 S_e = 1.0, \quad 4\pi Ts/Q = 1.0$$

$$t = 0.45 \text{ min}, \quad s = 0.09 \text{ feet}$$

$$T = Q/4\pi s = \frac{205.3}{(4)(\pi)(0.09)}$$

$$= 24.27 \text{ ft}^2/\text{min}$$

$$= 261,000 \text{ gpd/ft}$$

$$S_e = 4Tt/r^2$$

$$= (4)(24.27)(0.45)/(219)^2$$

$$= 9.11 \times 10^{-4}$$

Late Time Match Point (MP_l)

$$4Tt/r^2 S_l = 1.0, \quad 4\pi Ts/Q = 1.0$$

$$t = 22 \text{ min}, \quad s = 0.09 \text{ feet}$$

$$T = Q/4\pi s = \frac{205.3}{(4)(\pi)(0.09)}$$

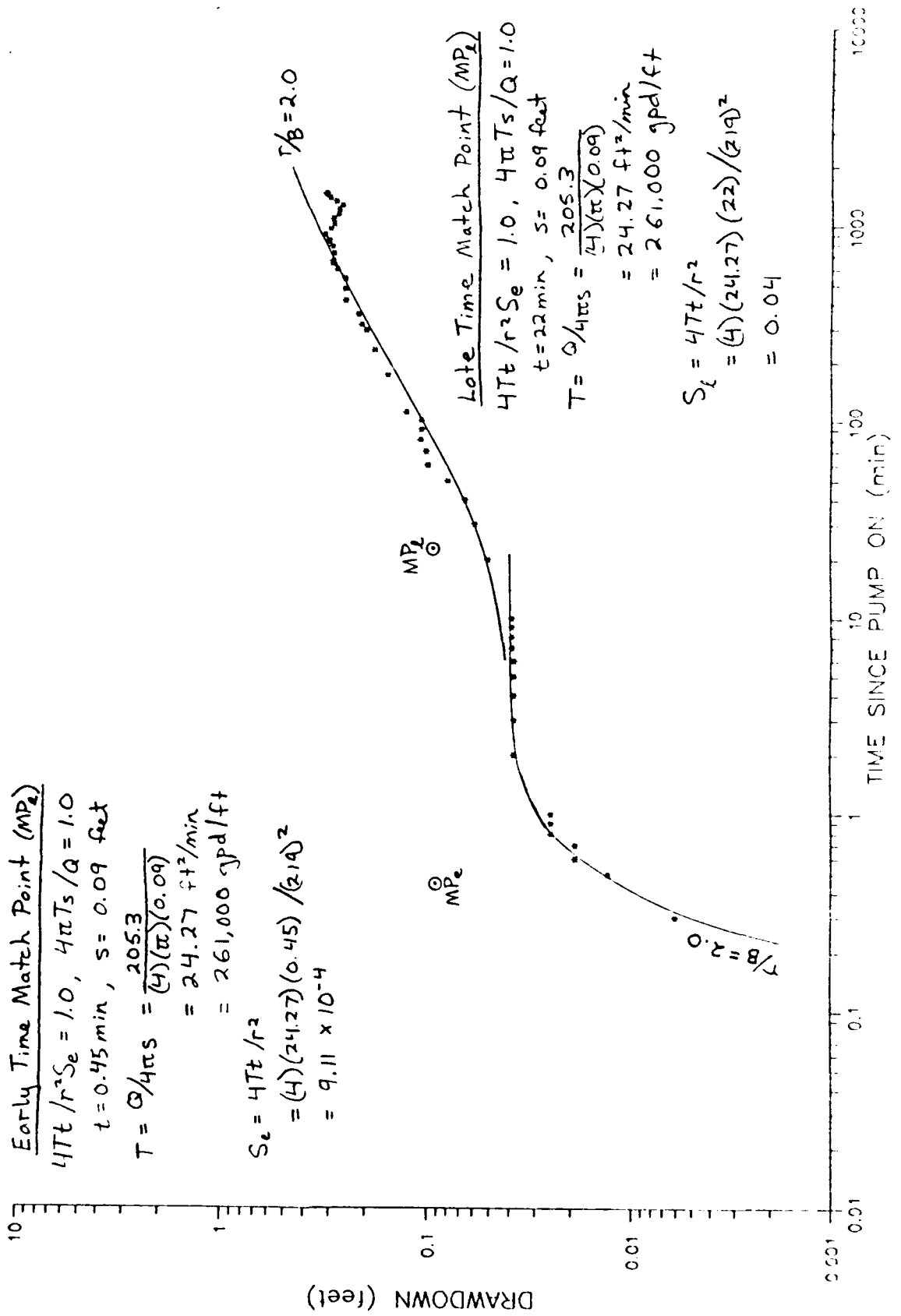
$$= 24.27 \text{ ft}^2/\text{min}$$

$$= 261,000 \text{ gpd/ft}$$

$$S_l = 4Tt/r^2$$

$$= (4)(24.27)(22)/(219)^2$$

$$= 0.04$$



PBP-91-02C

Early Time Match Point (MP_e)

$$4Tt/r^2 S_e = 1.0, \quad 4\pi T_s/Q = 1.0$$

$$t = 0.9 \text{ min}, \quad s = 0.105 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.105)}$$

$$= 20.80 \text{ ft}^2/\text{min}$$

$$= 224,000 \text{ gpd/ft}$$

$$S_e = 4Tt/r^2$$

$$= (4)(20.80)(0.9)/(219)^2$$

$$= 1.56 \times 10^{-3}$$

Late Time Match Point (MP_l)

$$4Tt/r^2 S_l = 1.0, \quad 4\pi T_s/Q = 1.0$$

$$t = 41 \text{ min}, \quad s = 0.105 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.105)}$$

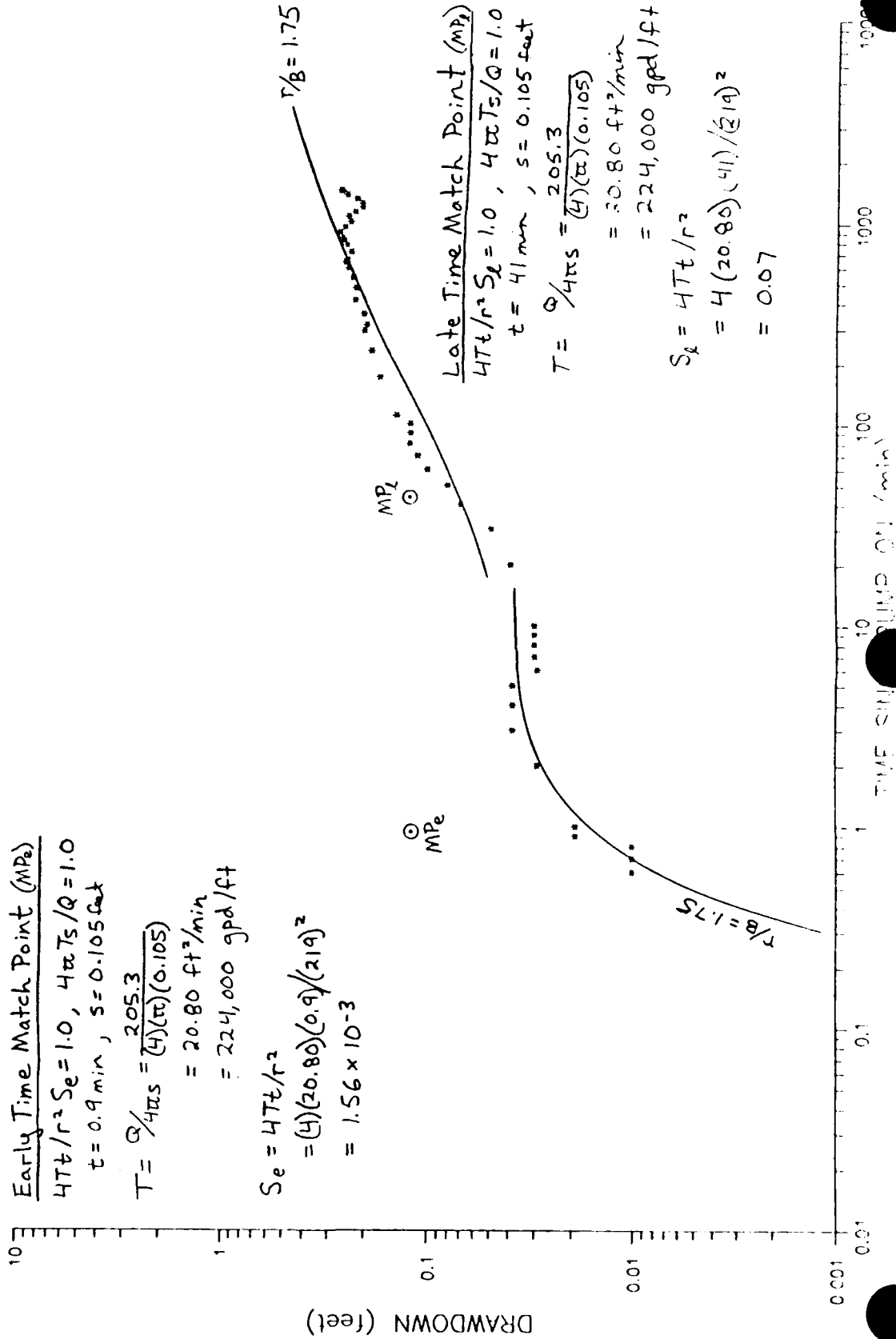
$$= 20.80 \text{ ft}^2/\text{min}$$

$$= 224,000 \text{ gpd/ft}$$

$$S_l = 4Tt/r^2$$

$$= 4(20.80)(41)/(219)^2$$

$$= 0.07$$



PBP-91-02D

Early Time Match Point (MP_e)

$$4Tt/r^2 S_e = 1.0, 4\pi Ts/Q = 1.0$$

$$t = 0.04 \text{ min}, s = 0.075 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.075)}$$

$$= 29.12 \text{ ft}^2/\text{min}$$

$$= 314,000 \text{ gpd/ft}$$

$$S_e = 4Tt/r^2$$

$$= (4)(29.12)(0.04)/(219)^2$$

$$= 9.71 \times 10^{-5}$$

MP_e

MP_l

Late Time Match Point (MP_l)

$$4Tt/r^2 S_l = 1.0, 4\pi Ts/Q = 1.0$$

$$t = 25 \text{ min}, s = 0.075 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.075)}$$

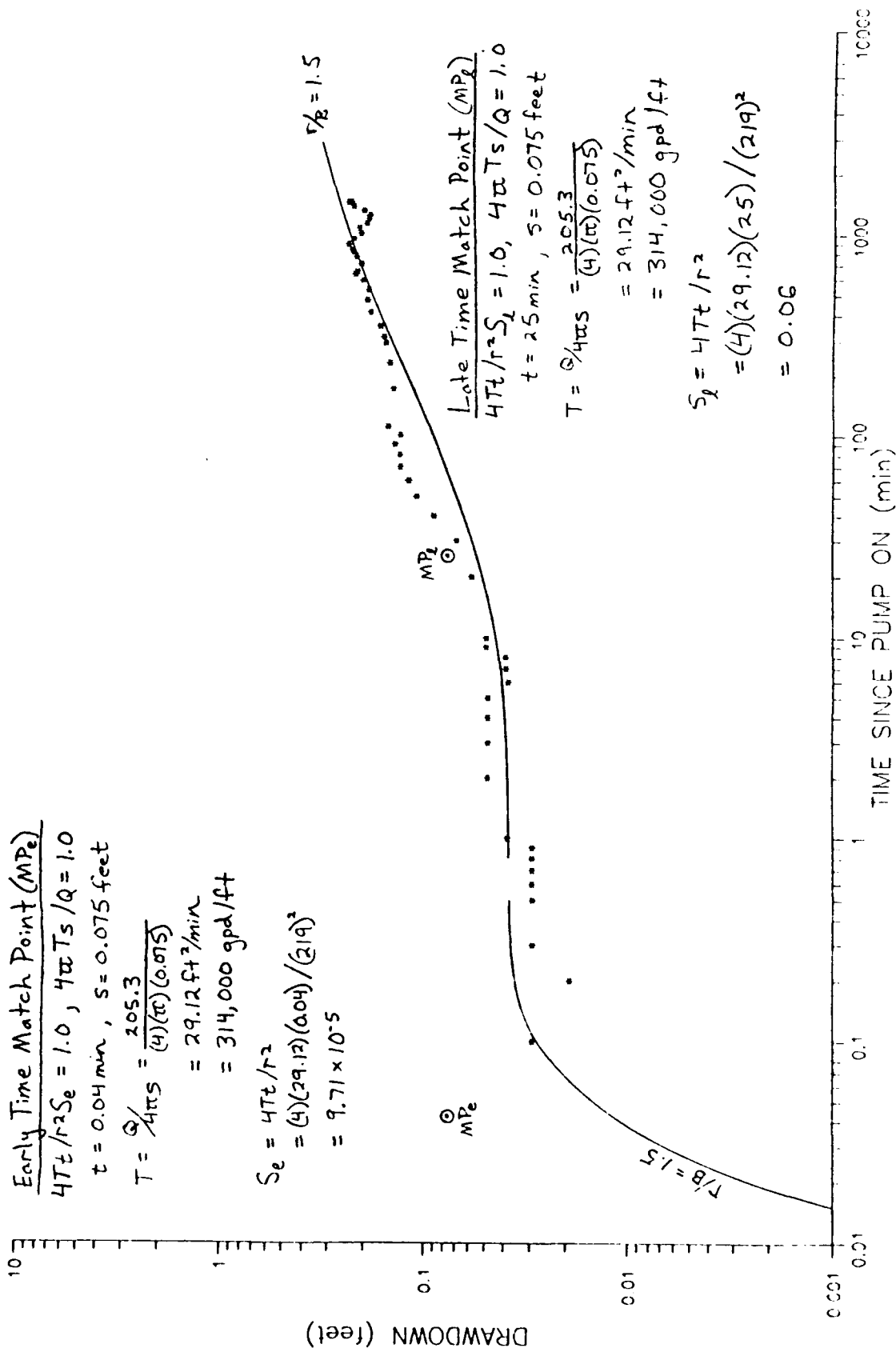
$$= 29.12 \text{ ft}^2/\text{min}$$

$$= 314,000 \text{ gpd/ft}$$

$$S_l = 4Tt/r^2$$

$$= (4)(29.12)(25)/(219)^2$$

$$= 0.06$$



PBN-91-06C

Early Time Match Point (MP_e)

$$4Tt/r^2 S_e = 1.0, \quad 4\pi Ts/Q = 1.0$$

$$t = 0.56 \text{ min}, \quad s = 0.115 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.115)}$$

$$= 18.99 \text{ ft}^2/\text{min}$$

$$= 205,000 \text{ gpd/ft}$$

$$S_e = 4Tt/r^2$$

$$= (4)(18.99)(0.56)/(199)^2$$

$$= 1.07 \times 10^{-3}$$

Late Time Match Point (MP_l)

$$4Tt/r^2 S_l = 1.0, \quad 4\pi Ts/Q = 1.0$$

$$t = 57 \text{ min}, \quad s = 0.115 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.115)}$$

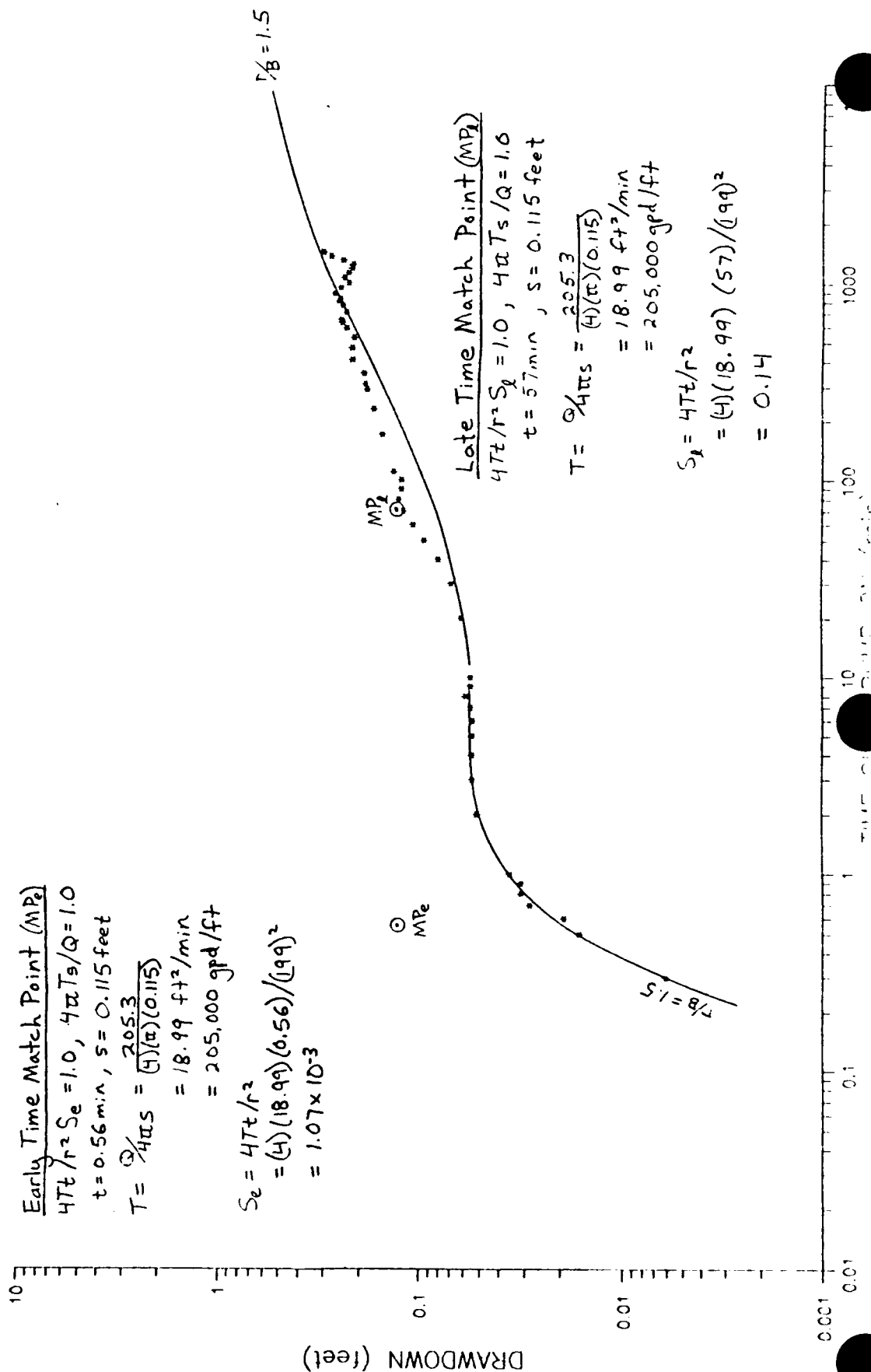
$$= 18.99 \text{ ft}^2/\text{min}$$

$$= 205,000 \text{ gpd/ft}$$

$$S_l = 4Tt/r^2$$

$$= (4)(18.99)(57)/(199)^2$$

$$= 0.14$$



PBN-91-06D

Early Time Match Point (MP_e):

$$4Tt/r^2 S_e = 1.0$$

$$4\pi Ts/Q = 1.0$$

$$t = 0.5 \text{ min}, s = 0.12 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.12)}$$

$$= 18.20 \text{ ft}^2/\text{min}$$

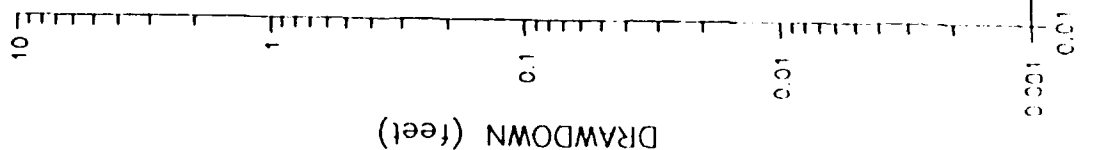
$$= 196,000 \text{ gpd/ft}$$

$$S_e = 4Tt/r^2$$

$$= (4)(18.20)(0.5)/(197)^2$$

$$= 9.4 \times 10^{-4}$$

MP_e



Late Time Match Point (MP_s):

$$4Tt/r^2 S_e = 1.0, 4\pi Ts/Q = 1.0$$

$$t = 70 \text{ min}, s = 0.12 \text{ feet}$$

$$T = \frac{Q}{4\pi s} = \frac{205.3}{(4)(\pi)(0.12)}$$

$$= 18.20 \text{ ft}^2/\text{min}$$

$$= 196,000 \text{ gpd/ft}$$

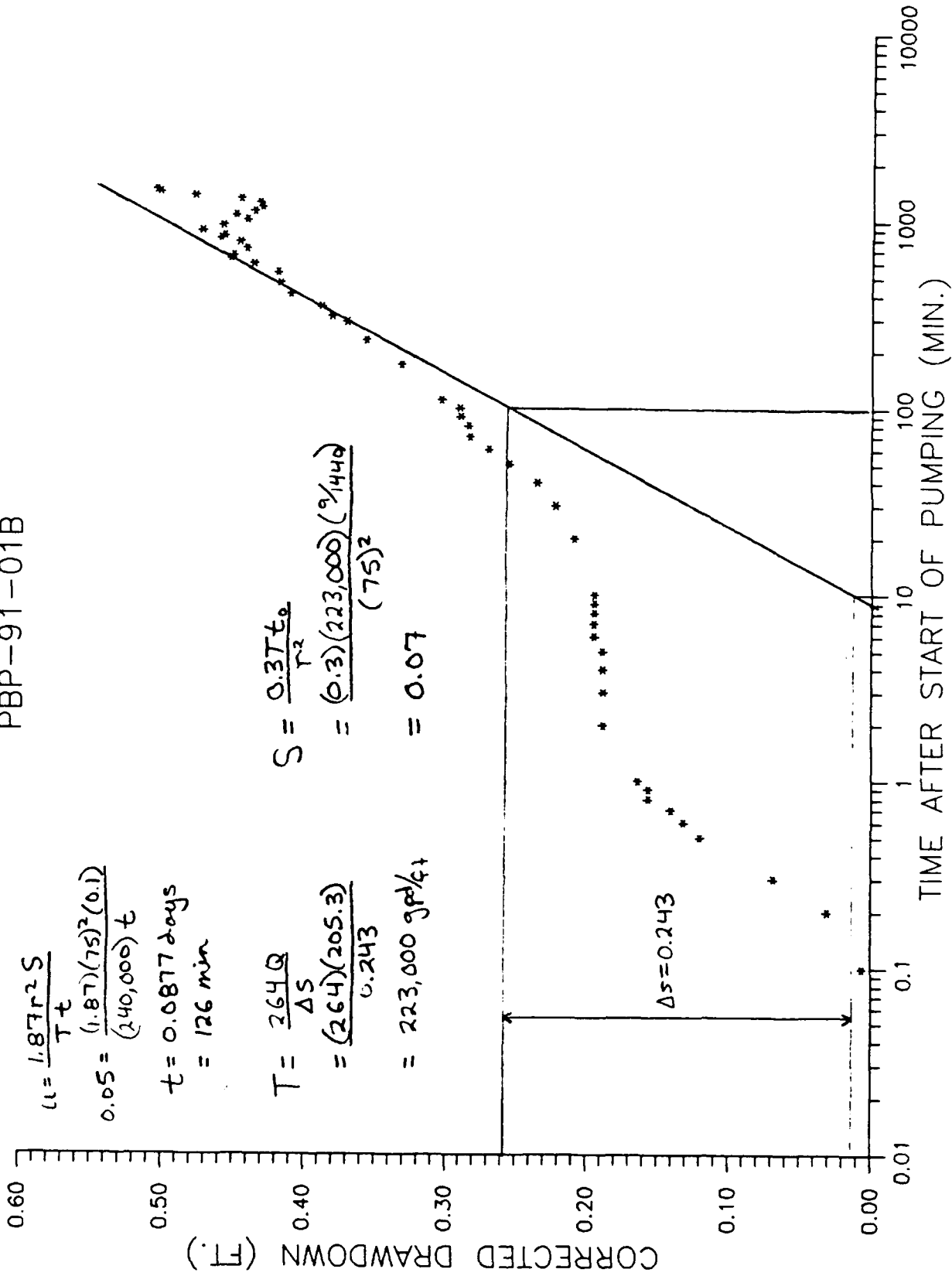
$$S_e = 4Tt/r^2$$

$$= (4)(18.20)(70)/(197)^2$$

$$= 0.13$$

JACOB METHOD ANALYSES

PBP-91-01B



PBP-91-01D

$$u = \frac{1.87 r^2 S}{T t}$$

$$0.05 = \frac{(1.87)(75)^2(0.1)}{(249,000) t}$$

$$t = 126 \text{ min}$$

$$T = \frac{264 Q}{\Delta s}$$

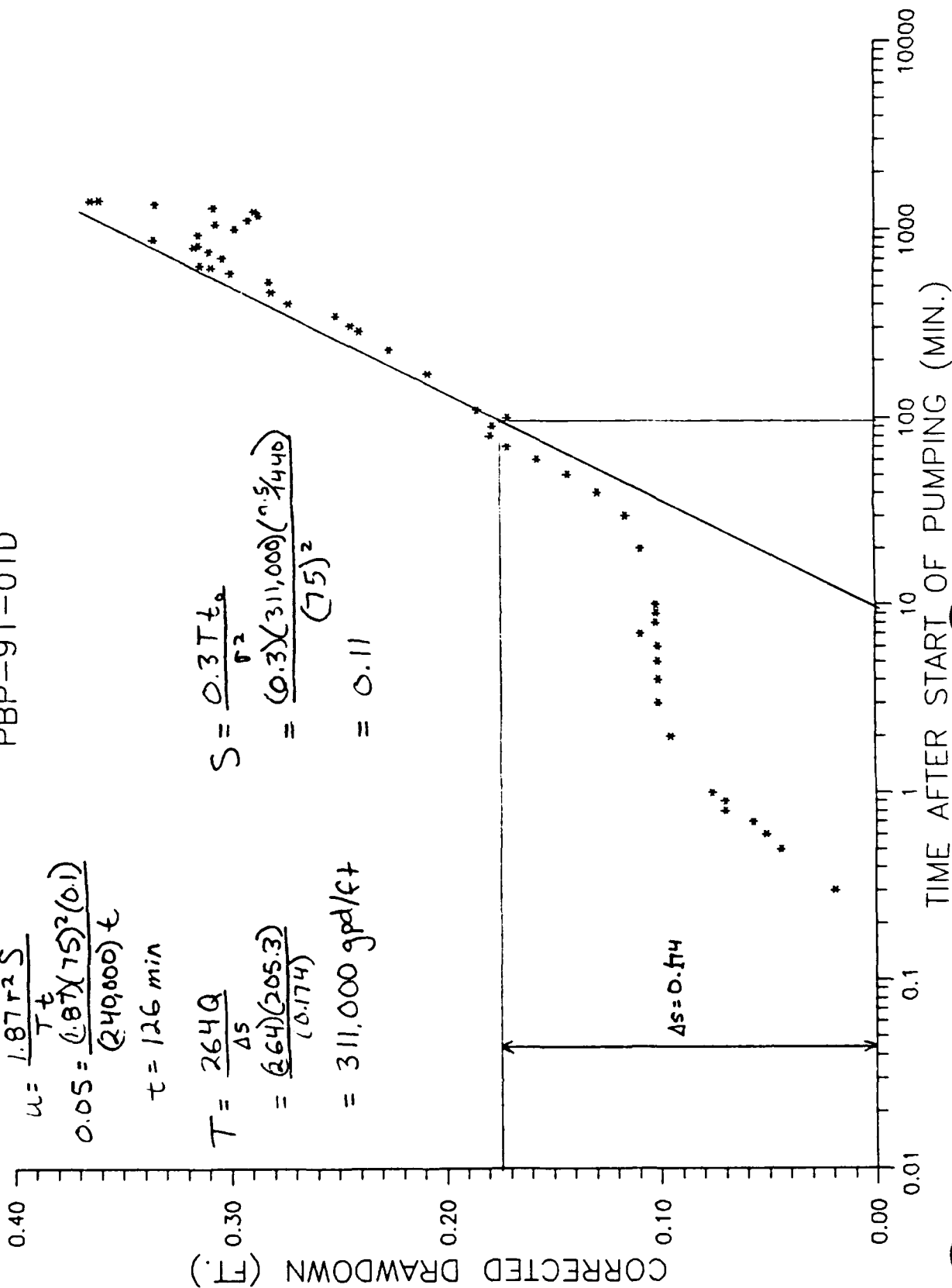
$$= \frac{(264)(205.3)}{(0.174)}$$

$$= 311,000 \text{ gpd/ft}$$

$$S = \frac{0.3 T t_d}{r^2}$$

$$= \frac{(0.3)(311,000)(\frac{5}{1440})}{(75)^2}$$

$$= 0.11$$



PBP-91-01C

$$u = \frac{1.87 r^2 S}{T t}$$

$$0.05 = \frac{(1.87)(75)^2(0.1)}{(240,000) t}$$

$$t = 126 \text{ min}$$

$$T = \frac{264 Q}{\Delta s}$$

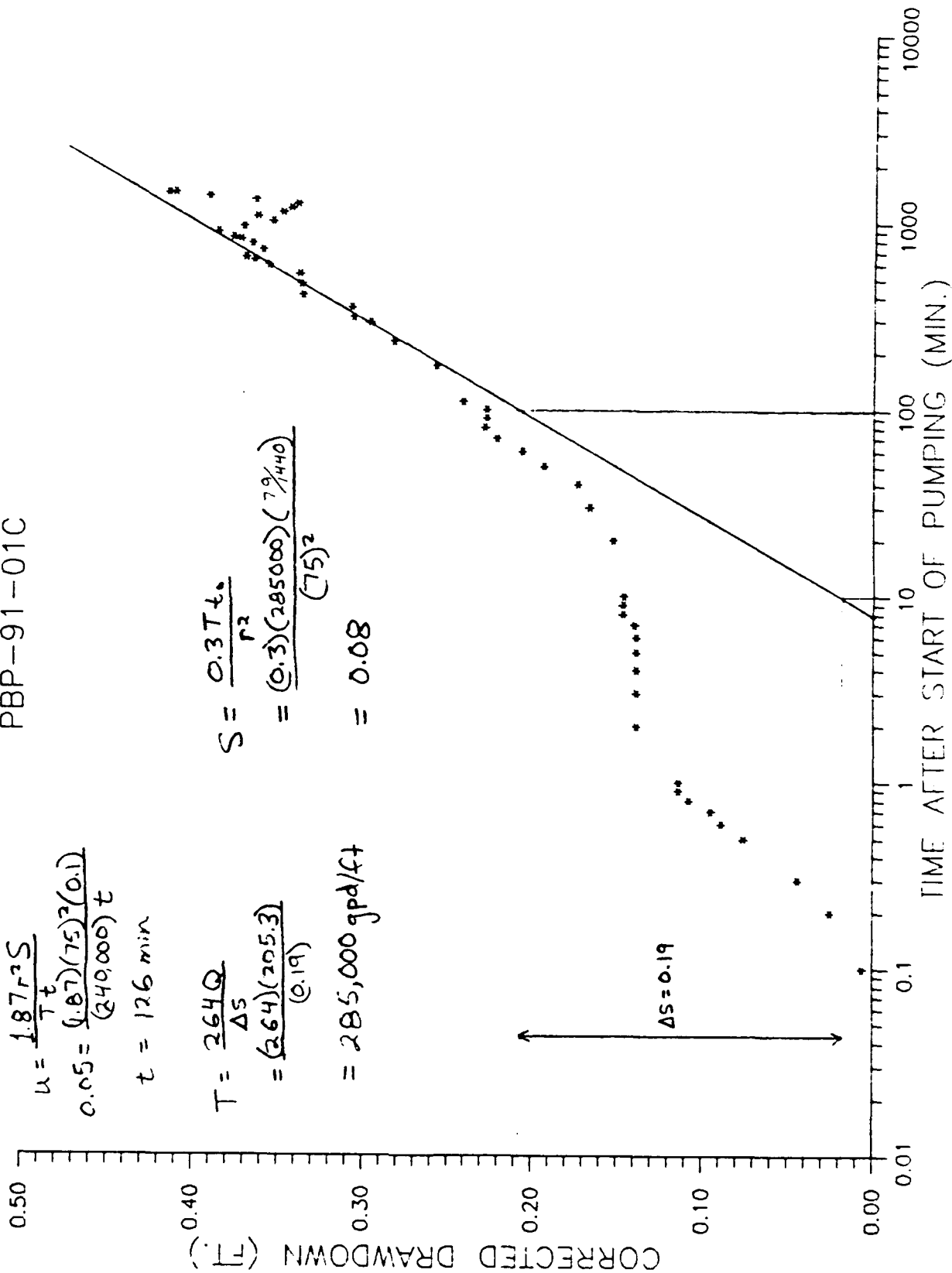
$$= \frac{(264)(205.3)}{(0.19)}$$

$$= 285,000 \text{ gpd/ft}$$

$$S = \frac{0.3 T t_0}{r^2}$$

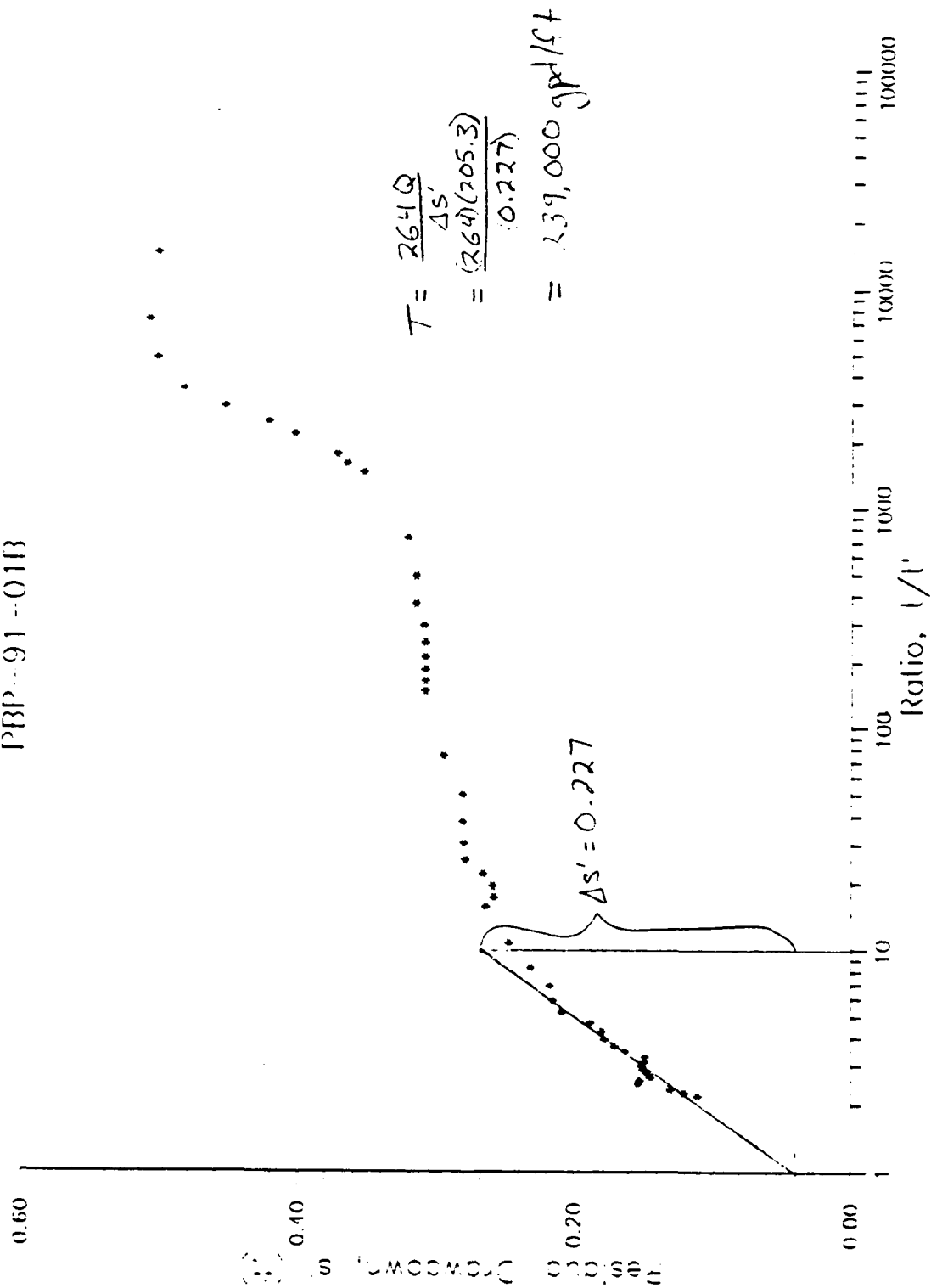
$$= \frac{(0.3)(285,000)(79/440)}{(75)^2}$$

$$= 0.08$$

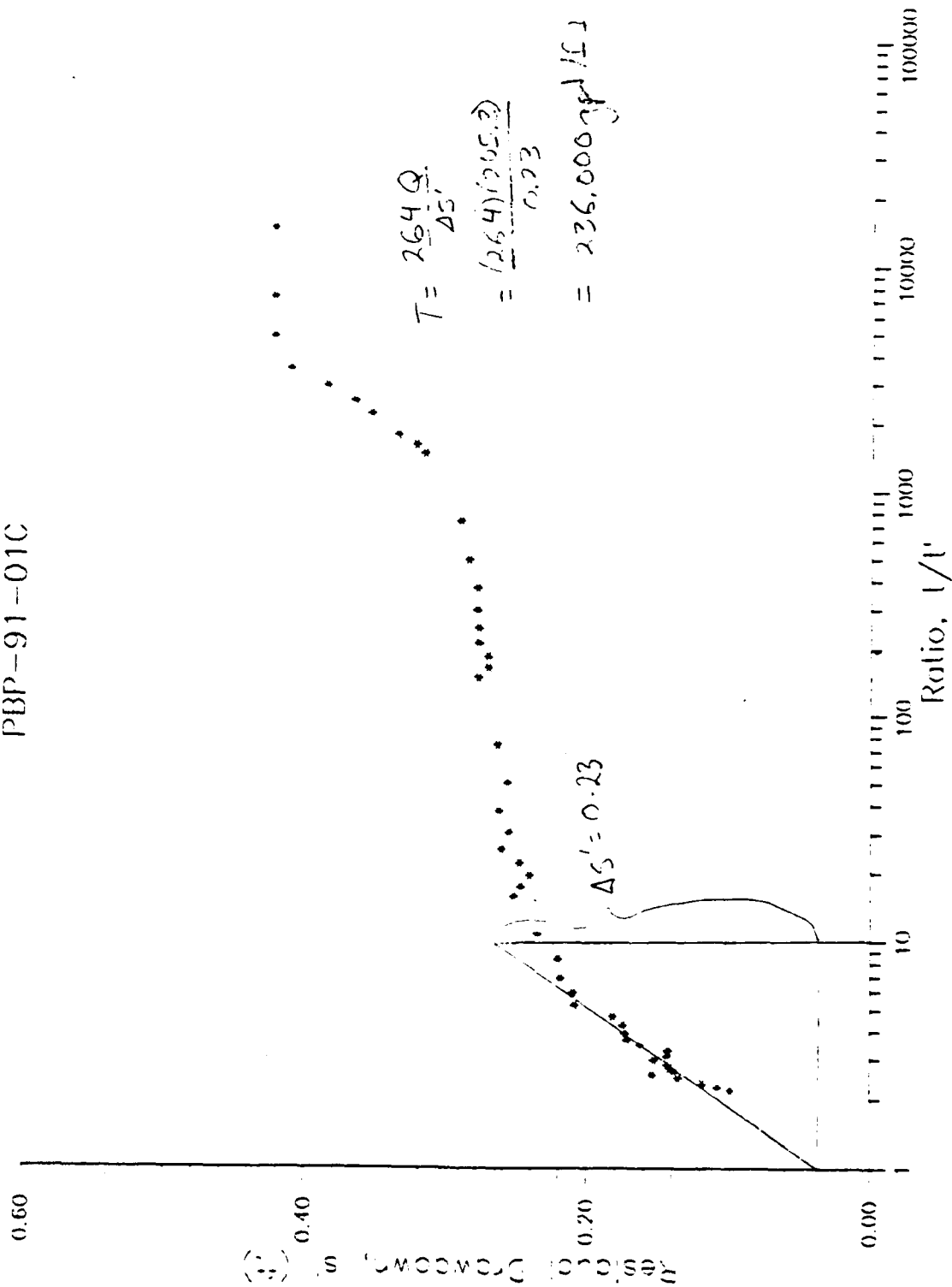


RESIDUAL DRAWDOWN ANALYSES

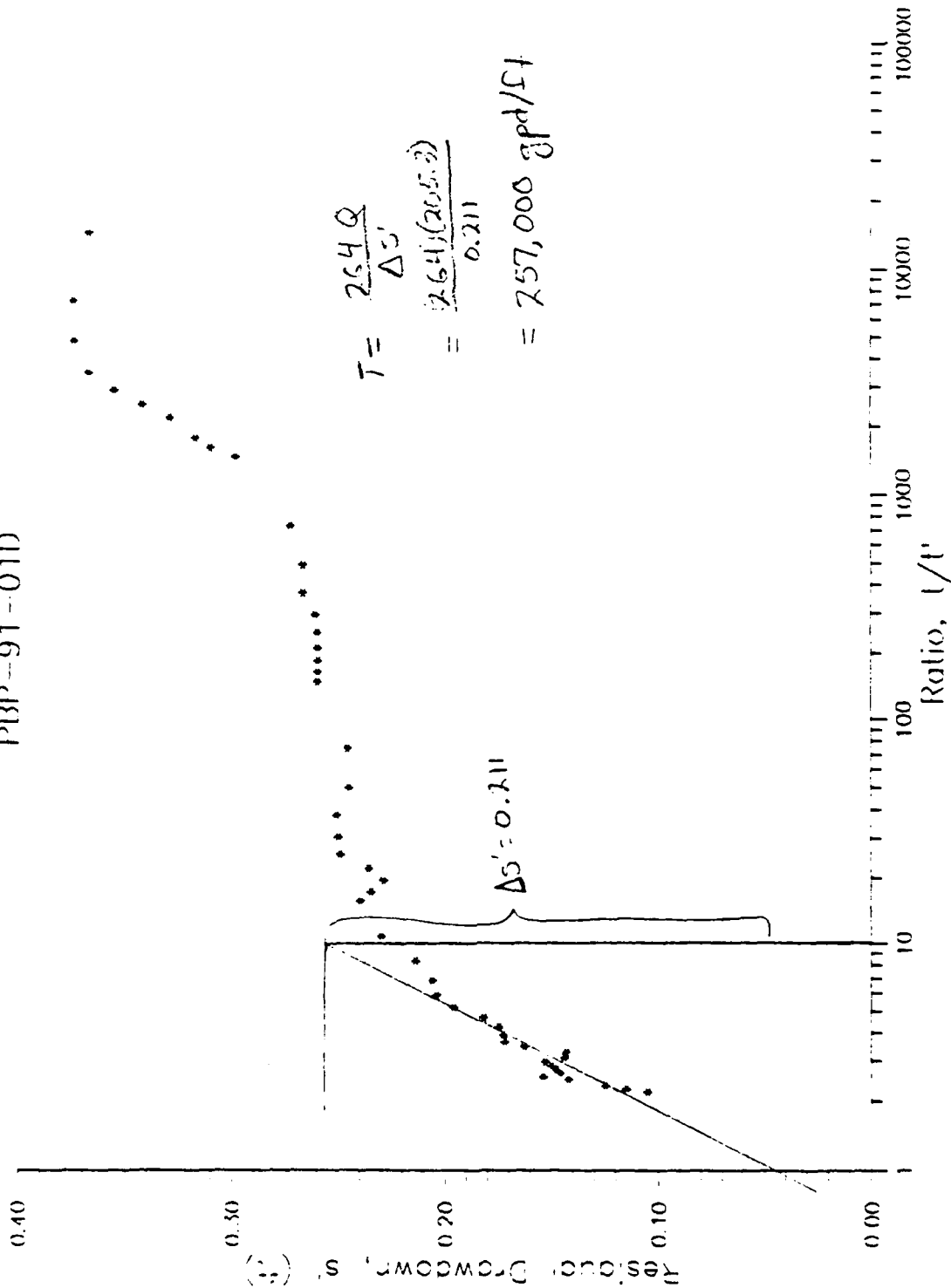
PBP-91-01B



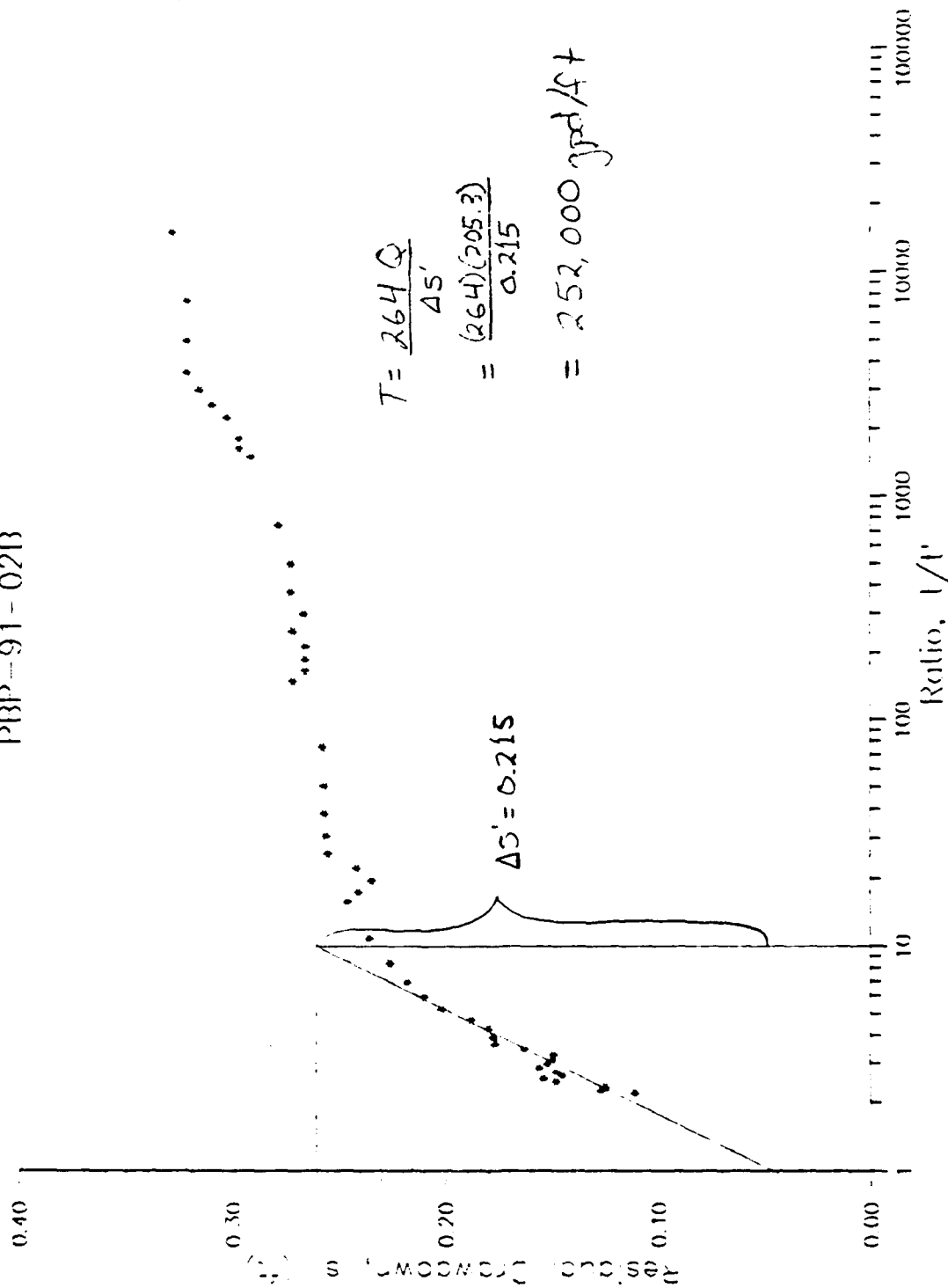
PBP-91-01C



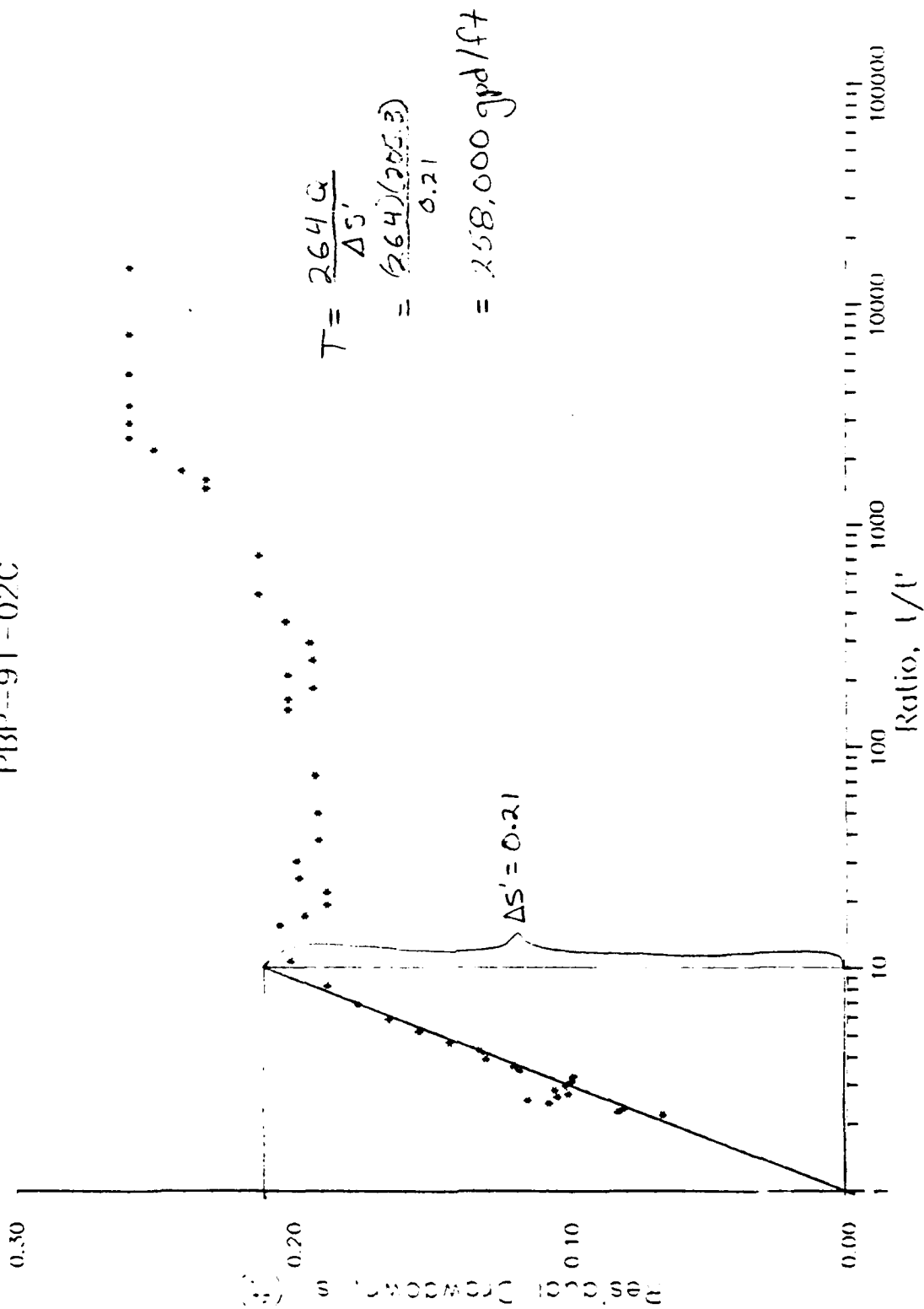
PBP-91-01D



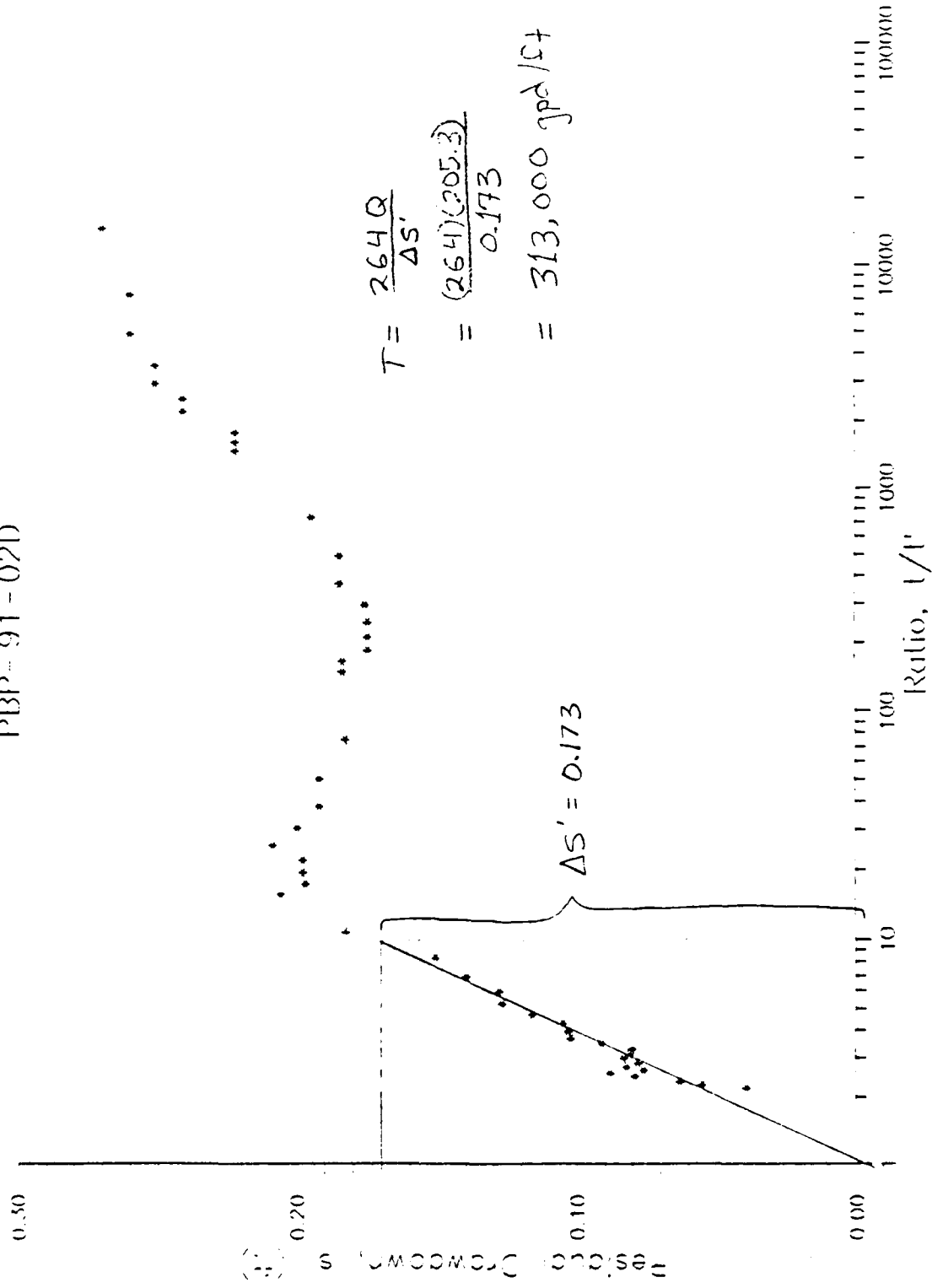
PBP-91-02B



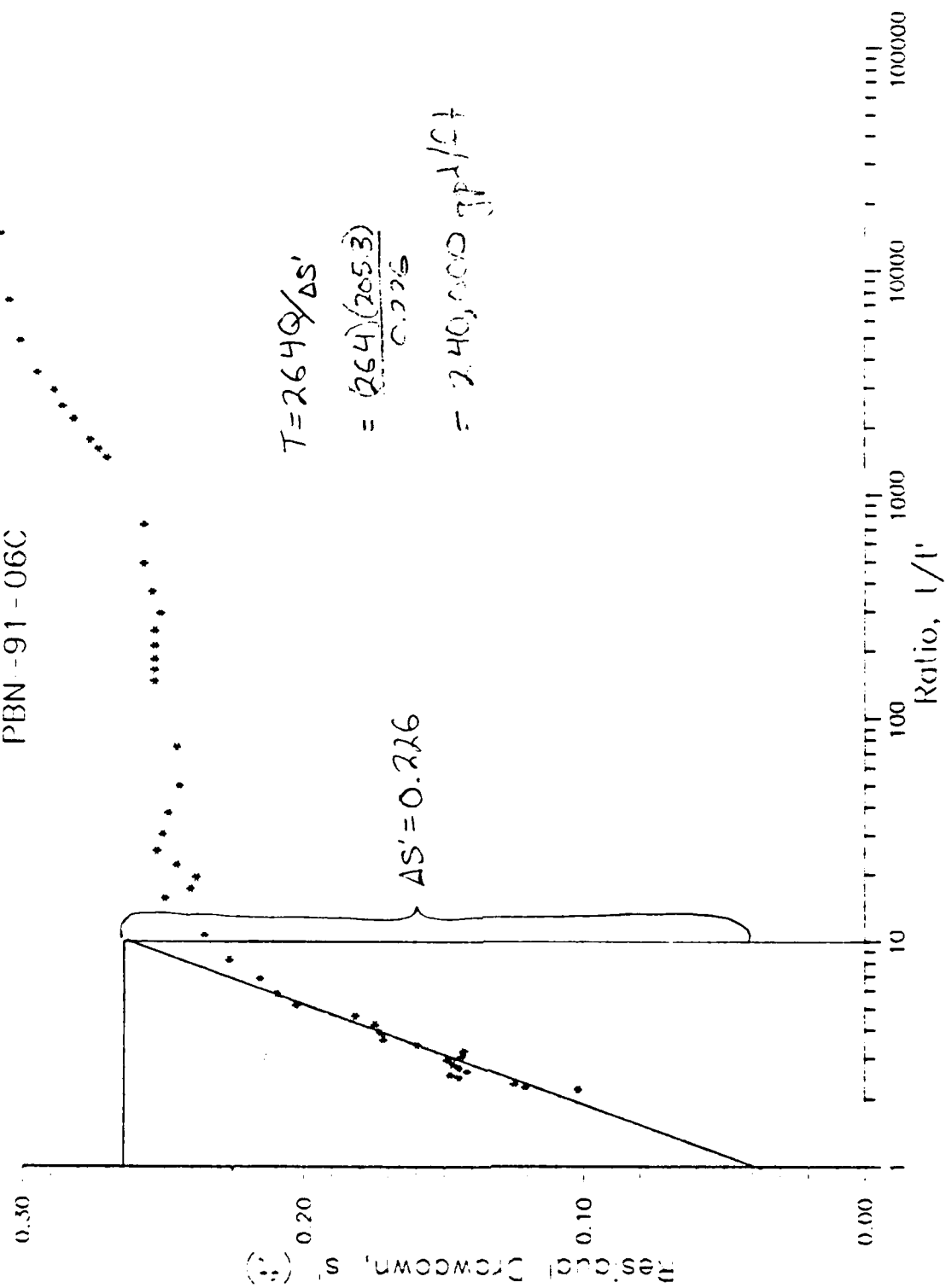
PBP-91-02C



PBP-91-02D

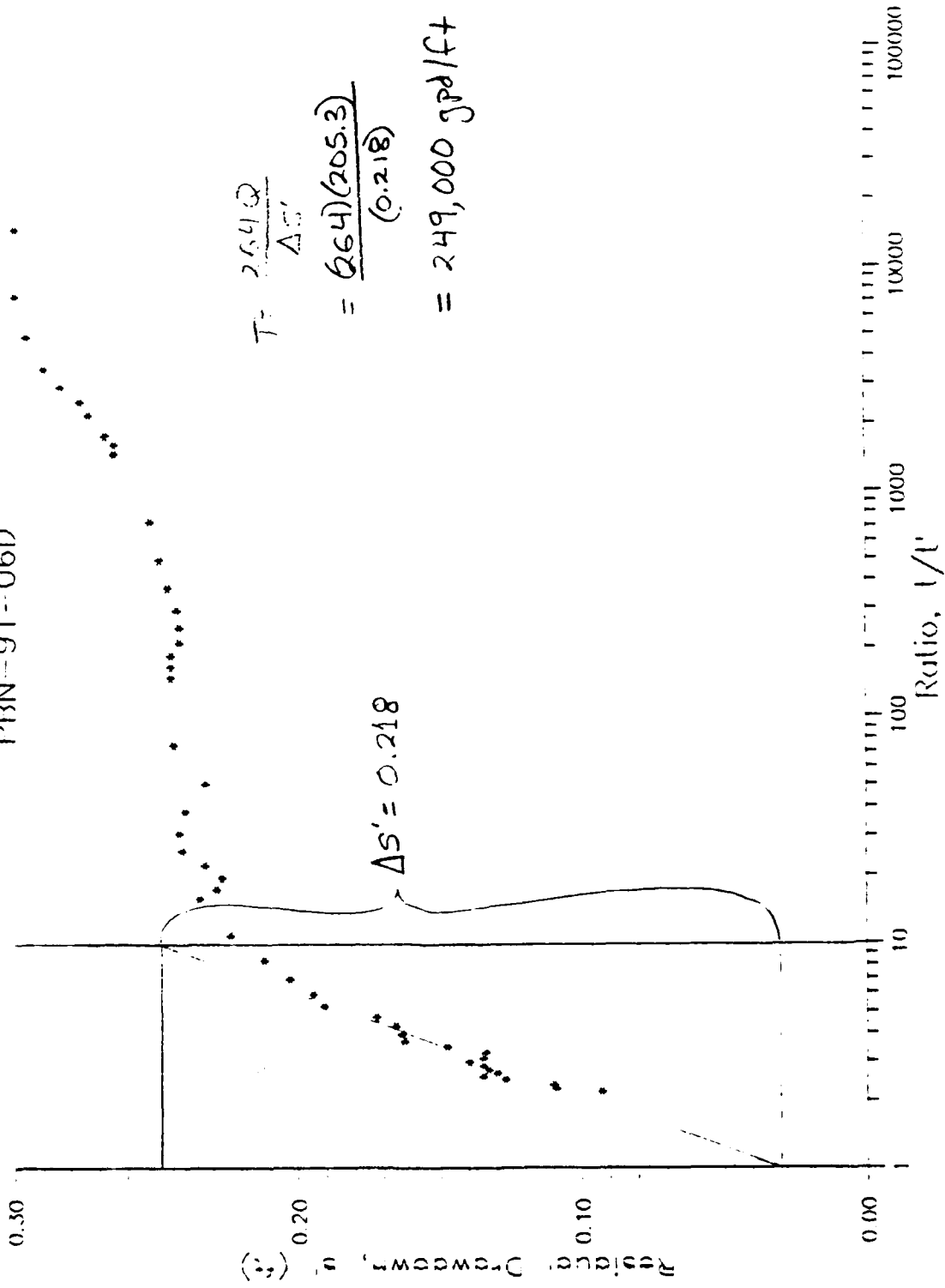


PBN-91-06C



$$\begin{aligned}
 T &= 264Q/\Delta S' \\
 &= \frac{(264)(205.3)}{0.226} \\
 &= 240,000 \text{ } \mu\text{p}^2/\text{cf}
 \end{aligned}$$

PBN-91-06D



$$T = \frac{264Q}{\Delta s'}$$

$$= \frac{264(205.3)}{(0.218)}$$

$$= 249,000 \text{ gpd/ft}$$

Appendix J.2
BAAP Regional Groundwater Flow Model

J.2 REGIONAL GROUNDWATER FLOW MODEL

A two-dimensional numerical groundwater flow model was developed to simulate regional water table conditions in the unconsolidated sand and gravel aquifer underlying BAAP. The model has been used to assist in the evaluation of the regional flow system, particularly the probable flow direction of contaminated groundwater outside the BAAP boundary and the influence of the Wisconsin River and Lake Wisconsin Reservoir. This model and its results are intended to be a tool in furthering the conceptual understanding of the geologic and hydrogeologic conditions at the site. In addition, the model has been used to establish boundaries for a site-specific groundwater flow model in the vicinity of the IRM extraction wells and Propellant Burning Ground.

This discussion of the model includes a presentation of the conceptual geologic framework and of the hydraulic data collected and utilized for the model, a description of the preprocessor and model code, assignments of model parameters and boundary conditions, and the results of model calibration, mass balance, and sensitivity analysis. Following preparation of this model an aquifer test was performed at IRM extraction well BCW-3 (see Appendix J.1). Results from this aquifer test have been utilized to validate this model and improve its calibration.

J.2.1 Conceptual Setting

The modeling effort is based on a conceptual model of the geologic/hydrogeologic system that, in general terms, consist of an unconfined, isotropic aquifer under steady-state conditions. This aquifer occurs in a thick sequence of highly permeable, unconsolidated glacial deposits overlying and bounded by sandstone and quartzite bedrock units with a lower permeability. The lower permeability of the bedrock units likely restricts significant groundwater movement between the bedrock and unconsolidated flow systems. Given this condition, the lack of available information about the bedrock flow system, and the absence of site related contaminants in the bedrock aquifer, the model has not included the bedrock units as part of the active aquifer. The eastern portion of the modeled area is bounded by the Wisconsin River. The size and order of the river as well as the surrounding topography indicate it is a major groundwater discharge zone, and, therefore, represents a no-flow boundary for the modeled area. Therefore, cells east of the river are inactive.

The WP&L dam on the Wisconsin River has a significant influence on the groundwater flow system. Immediately north of the dam, the Lake Wisconsin Reservoir generally does not receive groundwater discharge because the elevation of the reservoir (approximately 774 to 775 feet MSL) is above the water table elevation over much of the modeled area. The

APPENDIX J

higher elevation of the reservoir results in a large area of stagnant groundwater with low horizontal and vertical gradients. This condition is illustrated in Figure 2-2 (see Section 2.2). This area likely transitions to a groundwater flow divide east of BAAP. At the divide groundwater flows diverge. Groundwater east of the divide flows to the east and discharges to the Lake Wisconsin Reservoir (likely north of the Wiegand's Bay area). Groundwater west of the divide flows south before discharging to the Wisconsin River below the WP&L dam. The precise location of the groundwater divide is not well defined due to the flat water table in this area. The location of the divide may vary with seasonal fluctuations in the water table. It should be noted that east of BAAP the Lake Wisconsin Reservoir appears to act as a no-flow boundary allowing no groundwater discharge to the aquifer and contributing very little recharge water to the aquifer.

J.2.2 Data Collection

Data used in the groundwater flow model include ABB-ES' investigations at BAAP; previous investigations (EEI, 1981; Warzyn, 1982a and 1986; Sarko, 1982 and 1983; and Tsai et al., 1988); residential water supply well logs (Wisconsin Geologic and Natural History Survey, 1990); the Hydrologic Investigations Atlas HA-479 (Hindall and Borman, 1974); an Information Circular Regarding Sauk County Geology (Clayton and Attig, 1990); and U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles for Sauk City, Sauk Prairie, Baraboo, North Freedom, and Mazomanie (Wisconsin).

Hydraulic conductivity (K) of the aquifer was initially estimated at 2×10^{-2} to 8×10^{-2} cm/sec (50 to 200 feet per day [ft/day]) based on a series of rising-head slug tests performed by ABB-ES and documented in Appendix I. Results from the slug tests correlate well with the results from a preliminary aquifer test performed as part of the IRM construction ($k = 150$ ft/day, see Appendix H). Hydraulic conductivity also has been estimated from the results of specific capacity tests performed on a series of high-capacity irrigation and production wells located at BAAP as well as in the BAAP vicinity (tests are summarized on irrigation well logs in Appendix D). Finally, a more comprehensive aquifer test was performed at Boundary Control Well No. 3. This test indicated a hydraulic conductivity of approximately 195 ft/day. This data suggests that the hydraulic conductivity over the area is fairly uniform.

The bedrock surface configuration was estimated using water supply well logs generated by local well drillers. Figure 2-1 shows a contour plan indicating the estimated elevation of the bedrock surface. Well logs used for preparing the contour plan are in Appendix D. While driller logs are generally not adequate for detailed geologic descriptions, they are suitable for locating the approximate bedrock surface depth. The bedrock contour plan indicates the

bedrock surface slopes downward to the south and east with the steepest slopes along the northern and western model boundaries. In a broad area across the central portion of the modeled area, the bedrock surface is approximately 625 feet MSL. These contours are in general agreement with regional data for Sauk County (Clayton and Attig, 1990).

The Wisconsin River surface water elevation has been measured at six temporary benchmarks (see Figure J.2-2 and Appendix H.4). All the temporary benchmarks are located downstream of the WP&L dam on bridge abutments and overhanging trees in local parks. The surface water elevation of the Lake Wisconsin Reservoir above the dam was obtained through records collected by WP&L. The reservoir is generally maintained within 0.5 foot of 774 feet MSL at the dam. Recent measurements by BAAP suggest the reservoir gradient may slope upward to 775 feet MSL upstream at Wiegands Bay. River gradients below the dam were also presented in HA-479 (Hindall and Borman, 1974). The gradient presented in HA-479 varies slightly from measured gradients in portions of the model area; however, it does not vary significantly from the average measured gradient. The river elevations and associated gradients based on the temporary benchmarks were used in the model since they represent recent measured values. The river elevation below the dam varies by several feet with varying discharge rates from the dam. The measured elevations utilized in the model were collected during a period of average discharge (6/7/90) after the spring high water discharge event.

Recharge to the unconsolidated aquifer was estimated through water budget analysis for typical site conditions as well as an assessment of low-flow stream discharge conditions. The water budget analyses for typical conditions in the BAAP area indicate a recharge rate of 5 to 7 in/yr where the surficial, lower permeable loess unit is present, and 7 to 9 in/yr where the loess unit is absent. These recharge rates compare well with low-flow stream discharge conditions on the lower Wisconsin River (Hindall and Borman, 1974). The low-flow stream discharge rates of 0.2 and 0.8 cubic feet per second per square mile of watershed basin correspond to average annual recharge rates of 3 and 11 in/yr, respectively. Appendix H includes a detailed analysis of the recharge rates.

J.2.3 Preprocessor Description

The data preprocessor, a user interactive program used to structure the data set for input to the model, was MODEL CAD (developed by Geraghty and Miller, Inc. 1989). MODEL CAD is a graphical interface groundwater model preprocessor used to assemble the data sets for MODFLOW. This preprocessor enables the user to visually assemble the model data sets, easily developing the model grid, boundary conditions, zonation and parameters.

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J.2.4 Model Description

The USGS Modular Three-Dimensional Finite Difference Groundwater Flow Model Code (MODFLOW) was chosen for the BAAP regional groundwater flow model. Selection of a groundwater model numerical code was based on several considerations: the code had to have the ability to include as boundary or initial conditions all significant hydrogeologic influences, be well accepted and documented, and be readily available for use by others (in the public domain). The positive aspects of this selection included the model's potential for three dimensionality, variety of boundary condition modules, and ability to express variability in thickness of aquifer. In addition, MODFLOW is a finite difference numerical model that provides the essential features needed more detailed analysis of an area within the regional model (this was conducted as part of the IRM evaluation).

The MODFLOW model code (MacDonald and Harbaugh, 1988) is installed as Geraghty and Miller's version for 386-based PC implementation (Geraghty and Miller, 1990). It currently resides on a Dell model 486P with a 200-MG hard disk. This version of the code also includes the new modules for the Preconditioned Conjugate Gradient solver package and the Stream Routing package.

For regional simulations at BAAP, the model has been applied to evaluate two-dimensional horizontal unconfined (water table aquifer) flow in an homogeneous isotropic sand and gravel aquifer. The model output is a matrix of hydraulic heads at specified locations reflecting water table elevations. Output also includes mass-balance analysis and a reiteration of assigned input parameters. This single layer model application does not address vertical flow. However, with the exception of the locally perched water table in the vicinity of the Deterrent Burning Ground/Existing Landfill, substantial vertical gradients have not been observed in the sand and gravel aquifer.

To overcome convergence difficulties with the numerical solution-solving scheme encountered in the initial calibration attempts, initial model runs were made on a transient basis with a 100-year simulation period. To verify that steady-state conditions had been reached at the end of these transient runs, the output heads for a transient run were used as input for a steady-state simulation. The resulting heads were compared with the transient output heads, and the values matched within a tenth of a foot. This technique is used when the numerical solver is sensitive to the initial head values in the model.

The governing equation for the two-dimensional movement of groundwater used in the model is based on the application of Darcy's Law and conservation of mass to the Laplace

Equation and assumes that the axes are aligned along the principal flow directions or principal axis of anisotropy:

$$\frac{\delta}{\delta x} \left(K_{xx} b \frac{\delta h}{\delta x} \right) + \frac{\delta}{\delta y} \left(k_{yy} b \frac{\delta h}{\delta y} \right) = s \frac{\delta h}{\delta t} + W(xyt)$$

where:

K_{xx} and K_{yy} are values of hydraulic conductivity along the x and y axes

b is aquifer thickness

h is the potentiometric head

W is a volumetric flux representing sources and/or sinks

S is the specific storage of the porous material, and

t is time

This equation is solved at each cell of the model by using finite difference techniques. The finite difference technique solves the governing equation by approximating the solution to the partial differential equation through a system of algebraic equations which arise through the process of subdividing the model area into individual cells. The solution to the system of equations is achieved by first assuming a head value for each cell, the initial head array, and then using matrix mathematics to revise the solution to a closer approximation of the solution given the various stresses applied to the model. The previous and present solutions are then checked against each other, and the process reiterated until a minimal preselected difference, the closure criterion, is attained all cells for the two solutions. In this modeling effort, a closure criterion of 0.01 feet was used.

J.2.5 Assignment of Model Parameters

The finite difference grid designed for this model is composed of 37 rows and 24 columns with a variable grid spacing ranging from 1,000 to 2,000 feet. Figure J.2-2 depicts the grid network, as well as assignment of boundary conditions.

No-flow conditions were assigned along the northern and western boundaries of the model area. No-flow conditions best represent actual groundwater flow conditions in these areas where the permeable sand and gravel aquifer is bounded by the bedrock with a lower permeability. It is assumed in the model that the bedrock surface acts as a barrier to flow. Although a small flux of groundwater may move between the bedrock and the sand and

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gravel aquifer, it is likely much smaller than the amount of water moving through the sand and gravel aquifer. This is supported by the lack of vertical hydraulic gradients observed between bedrock and overburden monitoring wells at the SWN-91-05D&E well cluster (see Subsection 6.3). As a result, not including the bedrock aquifer does not significantly affect the representation of the sand and gravel aquifer flow system over the central portion of the model.

Constant-head conditions were assigned along the southern and southeastern model boundaries. Constant-head cells perform analogous to large surface water bodies that may act as unlimited sinks or sources. These cells have specified hydraulic heads which are not allowed to vary during the model simulation, although the cells may either contribute or receive water from the active portion of the model as necessary to satisfy the overall mass balance of the model. The Wisconsin River south of the WP&L dam has generally been interpreted as a groundwater discharge zone. Within the model, the constant-head values ranged from 733.8 immediately below the WP&L dam to 728.5 at the southwestern model boundary. These values were based on surface water elevations measured at temporary benchmarks along the river. The locations and water elevations at the temporary benchmarks are shown in Figure J.2-1.

General-head boundary (GHB) conditions were applied in the northeastern area of the model to reflect the influence of Gallus Slough (see Figure J.2-1), an embayment of the Lake Wisconsin Reservoir located approximately 2,800 feet east of the active model area. The GHB acts similarly to a constant-head boundary although the surface water body being modeled (Gallus Slough) is located outside the modeled area. The flow rate into or out of the model along the GHB is based upon Darcy's Law, and is proportional to the assigned hydraulic conductivity of the model cells and the difference in heads between the active cells along the GHB and the constant-head assumed for Gallus Slough (774 feet MSL).

Streambed/groundwater interactive conditions were assumed at the eastern boundary of the model along the Lake Wisconsin Reservoir above the WP&L dam. The functioning of the river module, is similar to the general-head boundaries, although a streambed hydraulic conductivity is also included. A river stage elevation and streambed conductance (incorporating the streambed hydraulic conductivity, thickness and area) are assigned to each boundary cell. Darcy's Law is then applied using the streambed conductance and differential hydraulic heads between the aquifer and river stage elevations to determine discharge fluxes to or from the river. If the groundwater table falls below the streambed bottom, the model applies a limited flux based on the river stage and the bottom elevation of the streambed. The only available information on streambed conditions at the Lake Wisconsin Reservoir is sediment sampling completed at Gruber's Grove Bay, which

identified approximately 7 feet of fine-grained sediment (EEI, 1981). Given the minimal amount of information on streambed sediments, the conductance term was varied during model calibration. This resulted in a vertical hydraulic conductivity value of 4×10^{-7} cm/sec (1×10^{-3} ft/day) being assigned to those sediments as calibrated for the streambed conductance parameter.

The final boundary condition consists of a series of active variable head cells which were applied to the southern most portion of the western model boundary where the sand and gravel aquifer is not bounded by the bedrock. These cells allow the water table elevation to vary and respond similarly to cells within the central (active) portion of the model. Within the model code MODFLOW is constructed to establish a no-flow boundary conditions outside the active model area. This condition is a reasonable simulation of actual conditions as groundwater flow lines near this western boundary are from north to south, reflecting discharge to the Wisconsin River.

Permeability and Aquifer Base Elevation. The aquifer was modeled with a K of from 150 to 200 ft/day (final calibrated value = 150 ft/day). This hydraulic conductivity value is within the range of field values observed in the model area and was selected based on the data and on the results of calibration and sensitivity analyses, discussed below. The aquifer bottom elevation was based on the bedrock surface elevation, which is approximately 625 ft MSL in the central portion of the model area and slopes upward along the northern and western boundaries to elevation 775 and downward to elevation 600 to 575 along the southern boundary.

Recharge: Recharge in all the simulations consisted of natural recharge from infiltrating precipitation at a uniform rate of 6 in/yr evenly distributed over the model area. This rate is based on water budget calculations (5 to 7 inches per year) and low-flow stream discharge measurements (corresponding to recharge of 3 to 11 inches per year) as discussed in Appendix H.

River Gradient and Constant Head Values: The river gradient calculated from the Hydrologic Investigations Atlas HA-479 is 0.00028. This gradient along with tail water elevation data from WP&L were used to initially estimate the constant-head values for the southern model boundary along the Wisconsin River. Following the measurement of river water elevations at temporary benchmarks (see Figure J.2-1), the estimated constant-head values were replaced with values based on the measured river water elevations. During late May and early June 1990 flood gates were occasionally opened at the WP&L dam resulting in a 3- to 4-foot rise in the river surface elevation. However, the flood stage river elevations were not used to establish the constant-head elevations as the intention of the model is to

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reflect steady-state conditions with more typical river water elevations. The river surface drops 0.7 foot (733.8 to 733.1 feet MSL) from the WP&L dam to the southern portion of Sauk City, a gradient of approximately 0.00005. The river then drops approximately 1.5 feet over the next mile (733.1 to 731.7 feet MSL), a gradient of 0.00026. This gradient is maintained over the next 3 miles (731.7 to 728.1 feet MSL), a gradient of 0.00024.

J.2.6 Model Calibration

To simulate the water table aquifer flow system, the model was first calibrated to reflect known average conditions. This involved defining the modeled hydraulic parameters of the aquifer materials to match, as closely as possible, observed field conditions and create a reasonable model of flow with respect to flow direction, gradient, and overall water mass balance.

After the boundary conditions were established and the model input debugged, the BAAP model was calibrated by varying the hydraulic conductivity, streambed conductance, and recharge arrays. The water table map used for initial calibration was based solely on information available within the base boundaries as no data outside this area was then available (see Figure J.2-3).

The initial simulation was run with a hydraulic conductivity value of 100 ft/day, recharge rate of 6 in/yr, and with streambed conductances calculated based on an assumed vertical hydraulic conductivity of 1.0 ft/day (3.5×10^{-4} cm/sec). The result of this simulation gave a water table that was higher than actually observed, and a greater discharge of water from the aquifer to the Lake Wisconsin Reservoir than observed. Following numerous calibration runs, where the hydraulic parameters were varied within reasonable limits to best represent observed site conditions, an adequate match between observed water table contours (see Figure J.2-3) and modeled water table contours was achieved (Figure J.2-1). As these figures indicate, the modeled water table is generally within 5 feet of the measured water table and flow directions and gradients are very similar. For the final calibration the following parameters were applied:

Hydraulic Conductivity - 150 ft/day (5.3×10^{-2} cm/sec)

Recharge - 6 in/yr

Vertical Hydraulic Conductivity for Streambed Conductance - 0.001 ft/day
(3.5×10^{-7} cm/sec)

After development of the calibrated model presented in Figure J.2-2, additional water table levels were gathered from irrigation and monitoring wells located south of BAAP. These

data have been used to generate a regional water table contour plan presented in Figure J.2-4. A comparison of Figures J.2-4 and J.2-2 indicates a good match between the observed water table contours and the modeled contours south of BAAP. The match is good for water table elevations, horizontal gradients, and interpreted flow direction.

Given the presence of a plume of VOCs emanating from the Propellant Burning Ground area and flowing southward, it has become important to establish the direction of groundwater flow south of BAAP. The results indicate groundwater flowing south from the Propellant Burning Ground likely discharges to the Wisconsin River south of the WP&L dam, but north of the Village of Prairie du Sac Municipal Well (i.e., Well No. 2). A model simulation that included Well No. 2 pumping 1,000 gallons per minute did not indicate a measurable zone-of-influence. However, this may have resulted from the size of active cells in this area (cell size = 500 feet by 500 feet). It should be noted that Well No. 2 has recently been extended from the overburden aquifer into the bedrock aquifer. This effort was undertaken as a result of high NIT concentrations in the overburden aquifer.

J.2.7 Mass Balance

Table J.2-1 presents the mass balance output for the calibrated regional model. As this table indicates, there was good correlation between input and output water volumes (0.05 percent discrepancy). As the model was calibrated to steady state conditions, there was no gain (input) or loss (output) in storage. Water supplied to the model was dominated by recharge (97.8%). Water left the model primarily through the constant head cells which represent the Wisconsin River below the WP&L dam (94.1%). Much smaller amounts of water left the model through head dependent cells along the general head boundary (5.8%). This represents groundwater discharge to Gallus Slough (part of the Lake Wisconsin Reservoir). As the conceptual model indicated only minor amounts of groundwater enter (2.2%) or leave (1.1%), the regional flow system model through the river cells which represent the Lake Wisconsin Reservoir.

J.2.8 Sensitivity Analysis

Following calibration, the BAAP model was subjected to a sensitivity analysis in which values of four model parameters were independently varied to determine the sensitivity of each parameter within the model. This analysis took the form of steady-state simulations in which hydraulic conductivity, recharge, aquifer bottom elevation, constant-head elevation, and streambed conductance were independently varied with five to six test values for each parameter.

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Eleven observation cells spaced throughout the active model area and near significant hydraulic features (i.e., Gruber's Grove Bay) were specified for comparison of computer-generated water levels (Figure J.2-5). The 11 cells along with their respective locations on the site map are:

<u>Row, Column</u>	<u>Location</u>
(4,9)	- East of the Old Acid Area/Old Fuel Oil Tank
(4,19)	- Deterrent Burning Ground/Existing Landfill
(8,11)	- Propellant Burning Ground
(9,22)	- Wisconsin River, north of Gruber's Grove Bay
(12,10)	- Southwest boundary of BAAP site
(13,17)	- Wisconsin River, south of Gruber's Grove Bay
(16,16)	- Wisconsin River, at the WP&L dam
(20,8)	- Central portion of the model area
(21,16)	- Wisconsin River, south of the WP&L dam
(27,19)	- Wisconsin River, southeast portion of the model area
(33,7)	- South-central portion of the model area

Model response to variation of each of the five parameters was analyzed by comparing the water level change for each cell as each parameter was varied above and below its calibrated value. For example, when aquifer bottom elevation was varied from 625 to 675 feet, the computed water levels at all cells rose with the exception of cells (21,16) and (27,19), which are located adjacent to constant head nodes.

The results of the sensitivity analysis are presented in Figures J.2-6 through J.2-9. Simulated water levels generated at the observation cells during the sensitivity analysis were compared to the water levels calculated in the calibration run (where all parameters remained unchanged), the resulting differences were used to gauge the sensitivity of the model to the change in each parameter.

Figure J.2-6 illustrates the sensitivity of water level to the aquifer base elevation. As mentioned, only the central portion of the model area, where limited information suggest the aquifer base elevation is approximately 625 feet MSL, was evaluated. As expected, the water table elevation rose as the aquifer base was raised. Generally, those cells located in the southern portion of the model appeared to be more sensitive while those closer to the river boundary were less sensitive (due to their proximity to boundary conditions). The response was relatively linear near the central portion of the model about the calibrated base elevation of 625 feet MSL.

Figure J.2-7 illustrates the sensitivity of water level to the hydraulic conductivity-recharge ratio. Hydraulic conductivity and recharge were evaluated together because they have similar, but inversely related, influence on overall model performance. At ratios near the calibrated value, the model response was generally linear. However, as the ratio was lowered to less than half its calibrated value (i.e., decreased hydraulic conductivity and increased recharge), the response became nonlinear with substantially higher water table elevations. As the ratio was increased (i.e., increased hydraulic conductivity and reduced recharge), the water table elevations fell, although the decrease was not as dramatic. This likely reflects the influence of the constant-head cells along the southern boundary of the model. Generally, all of the cells evaluated illustrate a similar response (nonlinear water table increases at low ratios and linear water table decreases at high ratios) with the exception of cells (21,16) and (27,19). Both of these cells are located near the river south of the dam and showed very limited water table changes. This is likely attributed to their proximity to the constant-head cells at the river.

Figure J.2-8 illustrates the sensitivity of the water level to the streambed conductance. Generally, all of the evaluated cells showed very little change in water table elevation at conductances below the calibrated values. This condition suggests the streambed is generally acting as a no-flow boundary as had been hypothesized (see Subsection J.2.1). This is also supported by the mass-balance analysis for the model (see Subsection J.2.7). However, above the calibrated value, the model water table elevation increased, indicating that, under the model condition, the stream (Lake Wisconsin) was contributing water to the model. It should be noted that cell (16,16), located adjacent to the dam, was the most sensitive cell to increases in the streambed conductance.

Figure J.2-9 illustrates the sensitivity of water level to the constant-head changes. This figure shows a linear response at nearly all evaluated cells. Generally, for every 3 feet of change in the constant-head cell elevation, the water table in the southern portion of the model increased by 2 to 3 feet while the water table in the northern portion of the model increased by only 1 foot.

The hydraulic conductivity/recharge ratio was the most sensitive parameter of those varied in the sensitivity analysis. The model was particularly sensitive to decreased values of hydraulic conductivity and increased values of recharge. The model demonstrated only moderate sensitivity to variation in the other model parameters.

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J.2.9 Verification/Supplemental Calibration

Following development of the regional model, ABB-ES conducted a second, more comprehensive aquifer test (at BCW-3, see Appendix J). The result of this test indicated a hydraulic conductivity on the order of 195 ft/day in the overburden aquifer. This is only slightly above the calibrated model, hydraulic conductivity of 150 ft/day. When the regional model was rerun with this higher hydraulic conductivity, the match between observed and modeled contours improved.

J.2.10 Summary

A two-dimensional numerical groundwater flow model of the BAAP region has been developed and calibrated. The modeled water table elevations flow directions and gradients match well with water table elevations measured in the field. However, the model does not account for vertical flow influences, particularly as they relate to the groundwater discharge from the bedrock. These low flow contributions are not considered significant to the representation of the principal flow in the overburden aquifer. The modeled water table contours predict contaminated groundwater flowing south from the Propellant Burning Ground likely discharges to the Wisconsin River just south of the WP&L dam and north of the Village of Prairie du Sac Well No. 2.

The model is also useful in understanding the importance of the hydrogeologic parameters and boundary conditions in determining flow in the overburden aquifer. This was explored more thoroughly through a sensitivity analysis conducted with the model. Overall, the sensitivity analysis indicates water levels increased as the hydraulic conductivity/recharge ratio and aquifer base elevation decreased, and as streambed conductance and constant-head elevations increased. The model responded with moderate sensitivity to changes in the boundary condition constant-head elevation. Sensitivity was also moderate with changes in the streambed conductance and aquifer base elevation except at a few cells near the Lake Wisconsin Reservoir where sensitivity was increased. The model was most sensitive to changes in the hydraulic conductivity/recharge ratio below the calibrated model value.

The regional model has served as the basis for a site-specific model of the Propellant Burning Ground and IRM extraction well area. This site-specific model was constructed as a tool to help address specific questions regarding the function of the IRM facility as well as different extraction system options.

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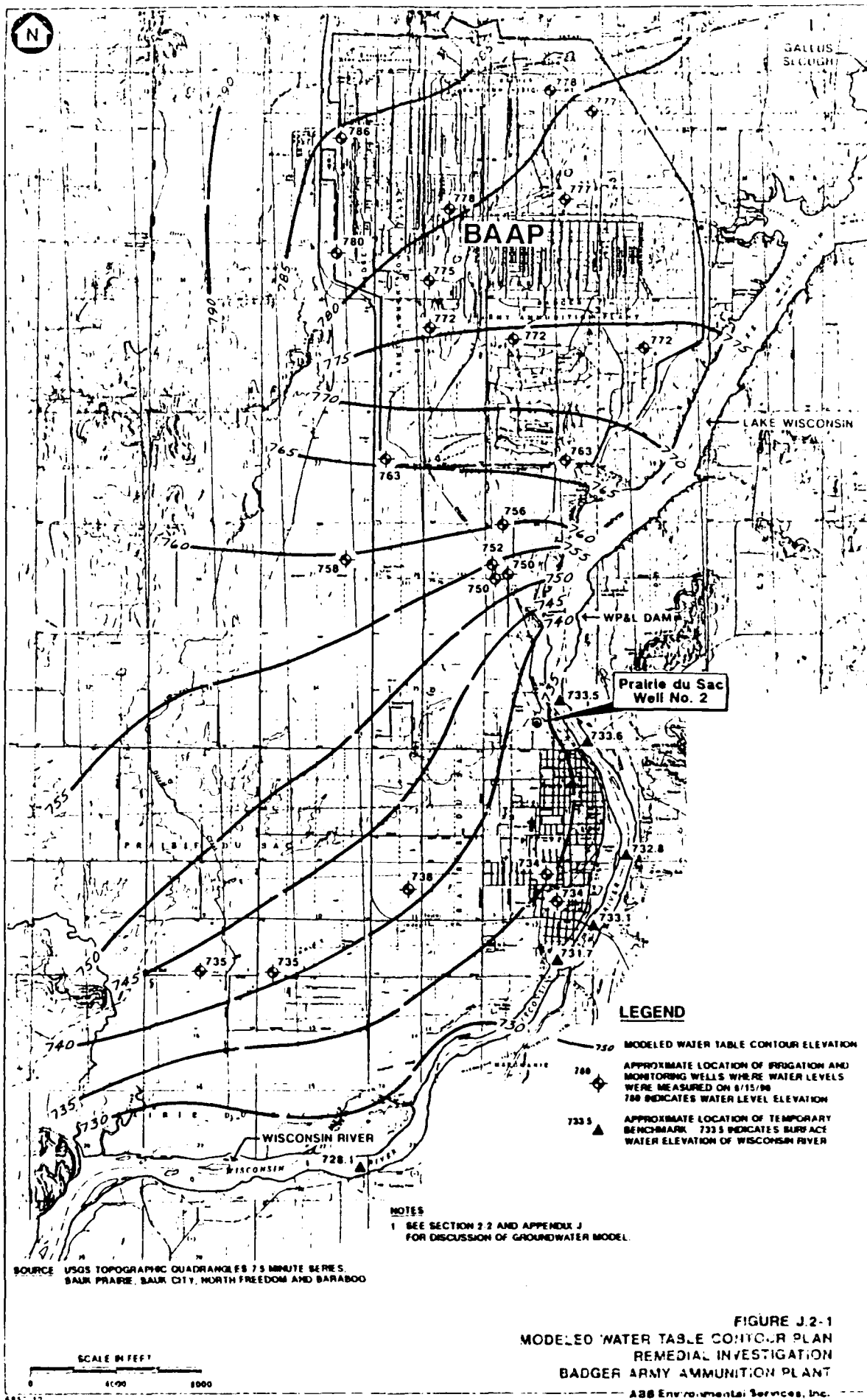
TABLE J.2-1
MASS BALANCE
REGIONAL GROUNDWATER FLOW MODEL

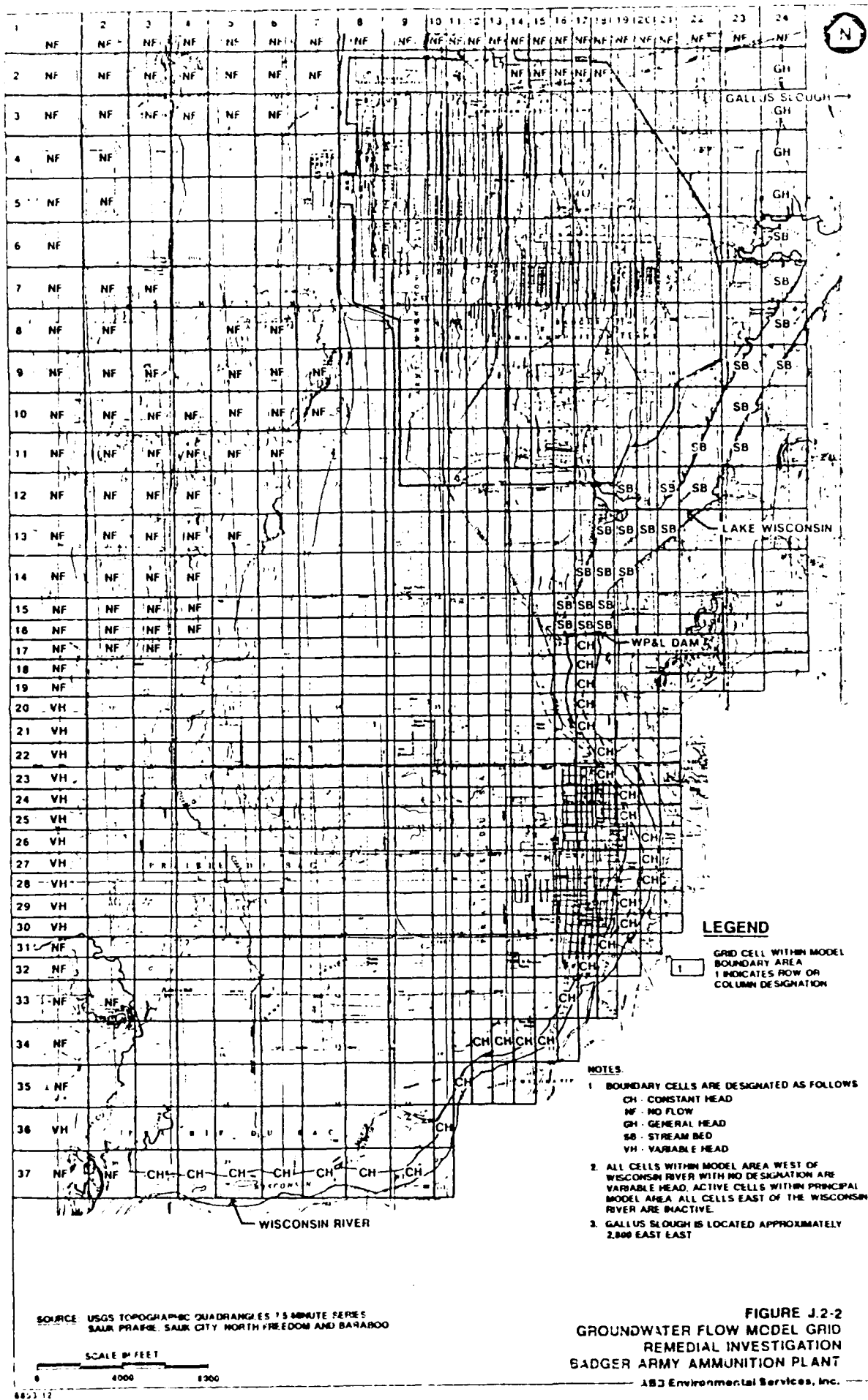
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

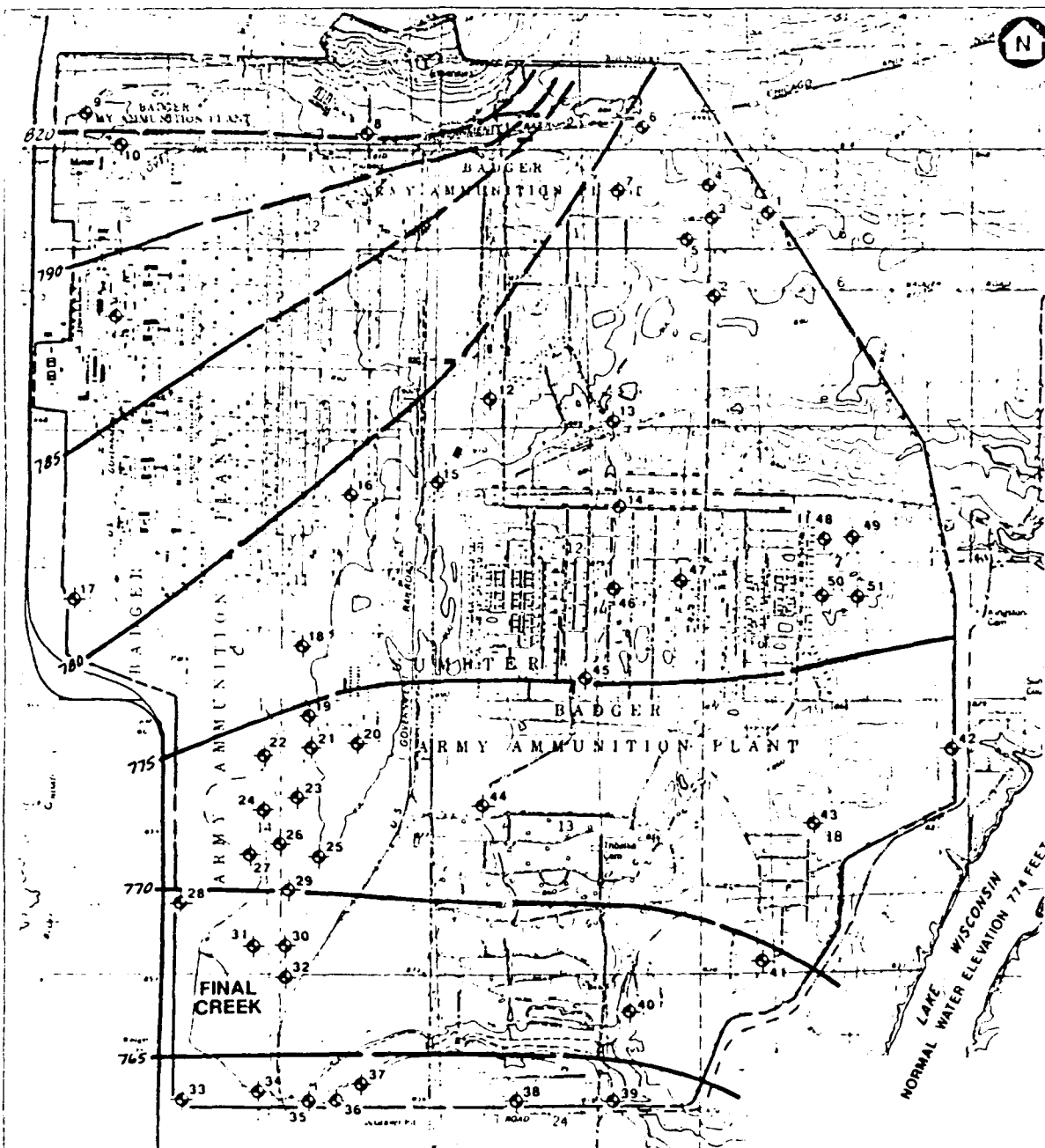
IN (WATER ENTERING MODEL)	OUT (WATER LEAVING MODEL)
Storage = 0.0	Storage = 0.0
Constant Head Boundary = 0.0	Constant Head Boundary = 1,674,300 (94.1%)
Recharge = 1,741,600 (97.8%)	Recharge = 0.0
River Leakage = 38,627 (2.2%)	River leakage = 2,184 (1.1%)
Head Dependent Boundary = 0.0	Head Dependent Boundary = 102,890 (5.8%)
Total In = 1,780,200	Total Out = 1,779,400

Notes:

1. All volumes are in cubic feet
2. In/Out difference is 876 cubic feet. This is equivalent to a 0.005 percent difference.









MAP CODE	WELL NUMBER	WATER LEVEL (FT)	MAP CODE	WELL NUMBER	WATER LEVEL (FT)
1	ELN 82 02C	778.4	27	PBN 85 03A	770.9
2	DBN 89 02B	778.6	28	S 1109	768.0
3	ELN 82 04C	778.7	29	PBM 85 04	770.0
4	ELN 82 01C	779.1	30	PBN 85 04A	768.8
5	DBN 89 04B	778.5	31	PBM 89 07	768.4
6	S 1151	779.6	32	PBM 85 06	767.3
7	S 1132	779.2	33	S 1101	763.7
8	S 1129	823.1	34	S 1147	764.0
9	S 1128	822.0	35	S 1148	763.4
10	S 1127	812.5	36	S 1102	763.4
11	S 1126	787.2	37	S 1149	764.3
12	NAN 81 01A	778.9	38	S 1104	763.8
13	S 1124	777.9	39	SPN 89 05A	763.7
14	S 1119	776.8	40	S 1110	767.2
15	S 1150	778.4	41	S 1111	760.6
16	S 1125	778.9	42	S 1113	774.1
17	S 1123	781.9	43	S 1112	773.2
18	PBM 89 11	776.4	44	S 1115	772.8
19	PBN 82 01A	774.8	45	S 1118	775.2
20	LON 89 03A	773.6	46	RPM 89 02	776.4
21	PBN 82 02A	773.9	47	RPM 89 01	776.3
22	PBM 82 01	773.9	48	NLN 82 01A	775.0
23	PBM 82 05	772.6	49	NLN 82 02A	775.7
24	PBN 82 03A	772.2	50	NLN 82 03A	775.8
25	PBN 85 02A	771.1	51	NLN 82 05A	775.5
26	PBM 85 01	771.6			

LEGEND

-  APPROXIMATE LOCATION OF MONITORING WELL USED IN DEVELOPING WATER TABLE CONTOUR PLAN
-  WATER LEVELS MEASURED IN THIS REGION APPEAR TO BE AFFECTED BY THE POTENTIOMETRIC SURFACE IN THE BEDROCK (S1129) AND BY THE PRESENCE OF FINE GRAINED SILT AND CLAY LAYERS (S1127).
- THE 820 CONTOUR REPRESENTS THE APPROXIMATE WATER TABLE ELEVATION IN THIS AREA.

NOTES:

WATER LEVELS MEASURED ON OCTOBER 25, 1989
 WELL SURVEY BASED ON U.S. COASTAL AND GEODETIC DATUM
 SURVEY BY VERBICHER ASSOC. (1989)
 BASE MAP FROM USGS 7.5 MIN. TOPOGRAPHIC QUADRANGLE
 MAPS, SAUK CITY, SAUK PRairie AND BARABOO, WISCONSIN

SCALE IN FEET
 0 1000 2000

FIGURE J.2-3
 BAAP WATER TABLE CONTOUR PLAN
 REMEDIAL INVESTIGATION
 BADGER ARMY AMMUNITION PLANT
 ABB Environmental Services, Inc.

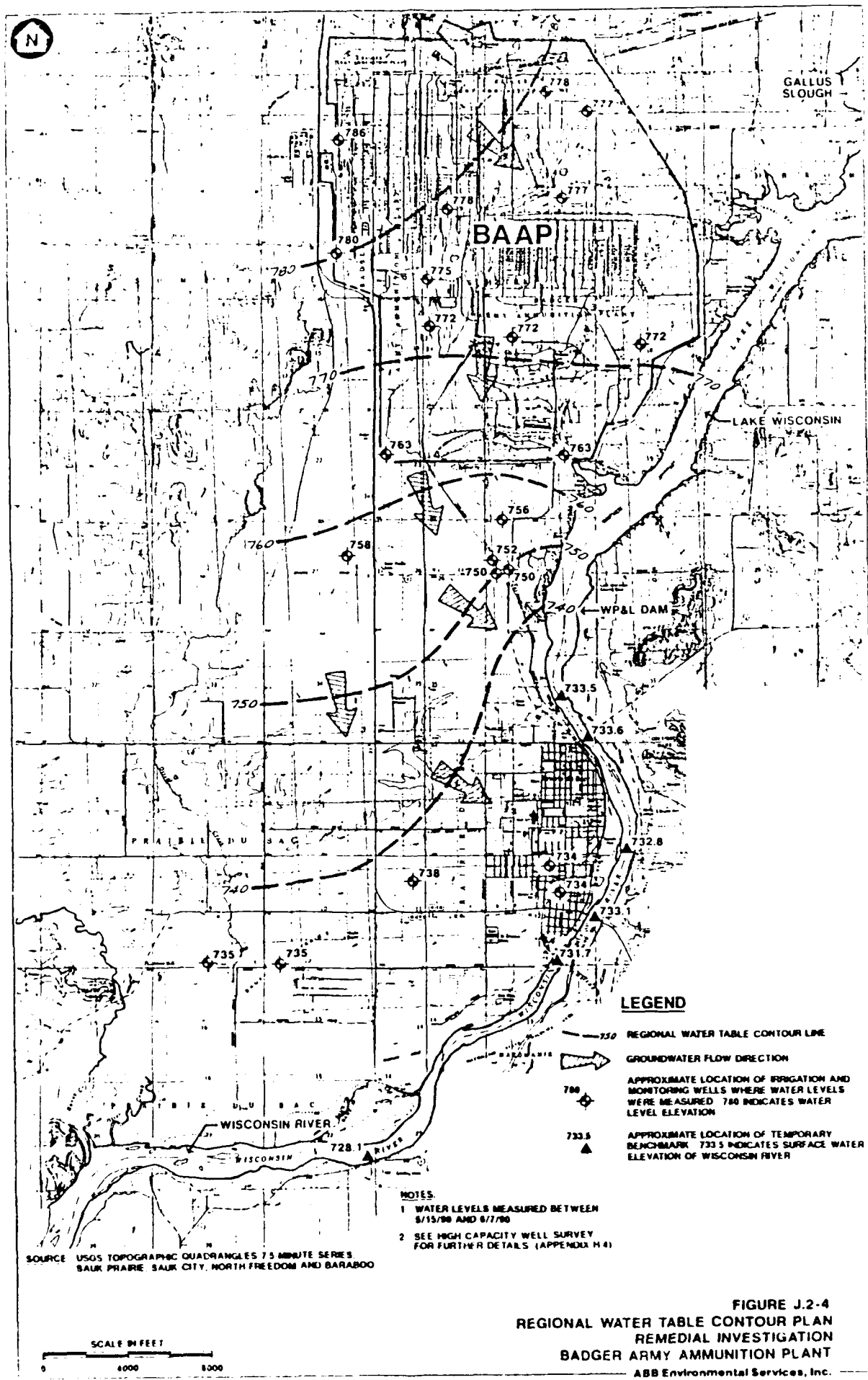


FIGURE J.2-4
REGIONAL WATER TABLE CONTOUR PLAN
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT
 ABB Environmental Services, Inc.

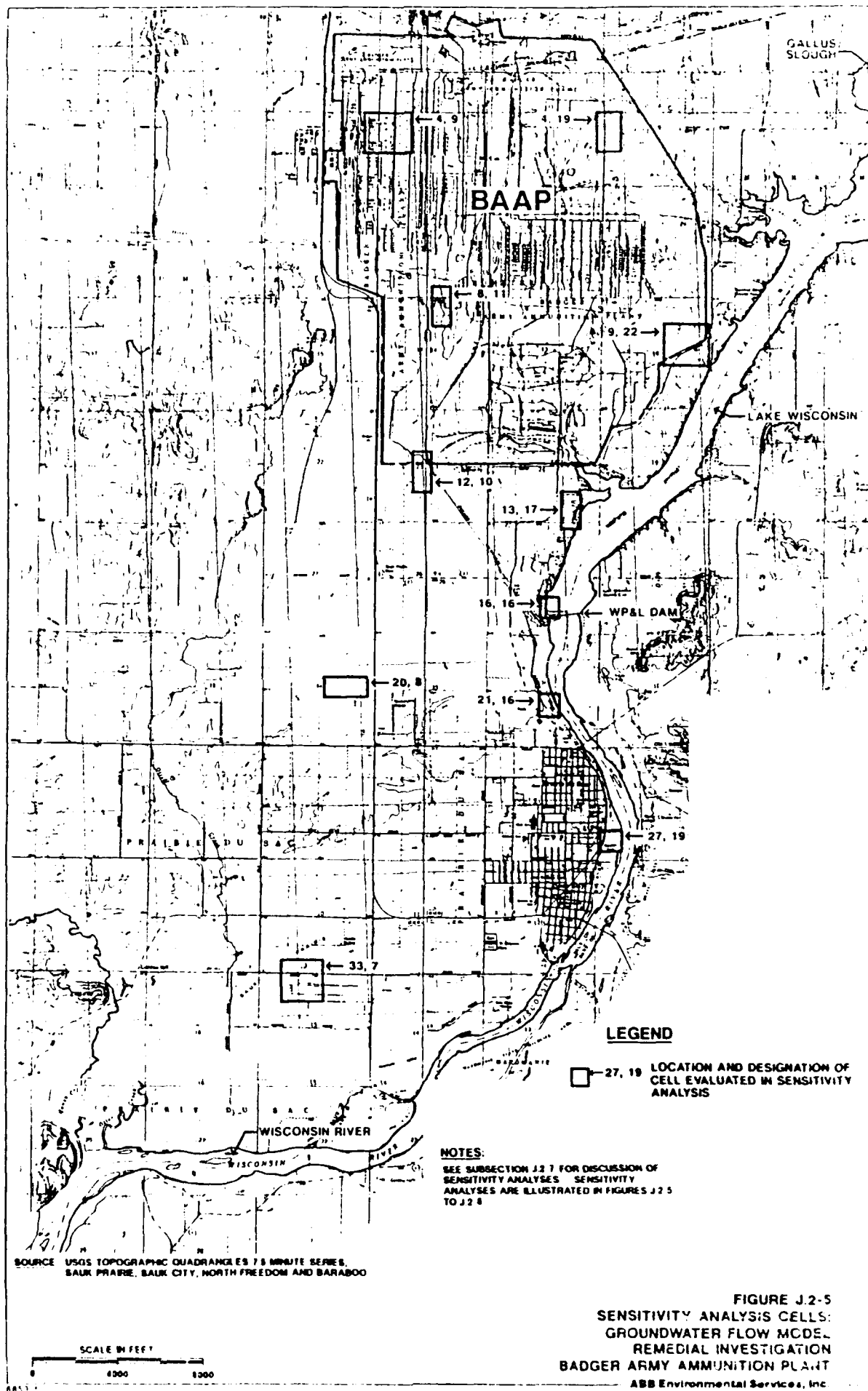
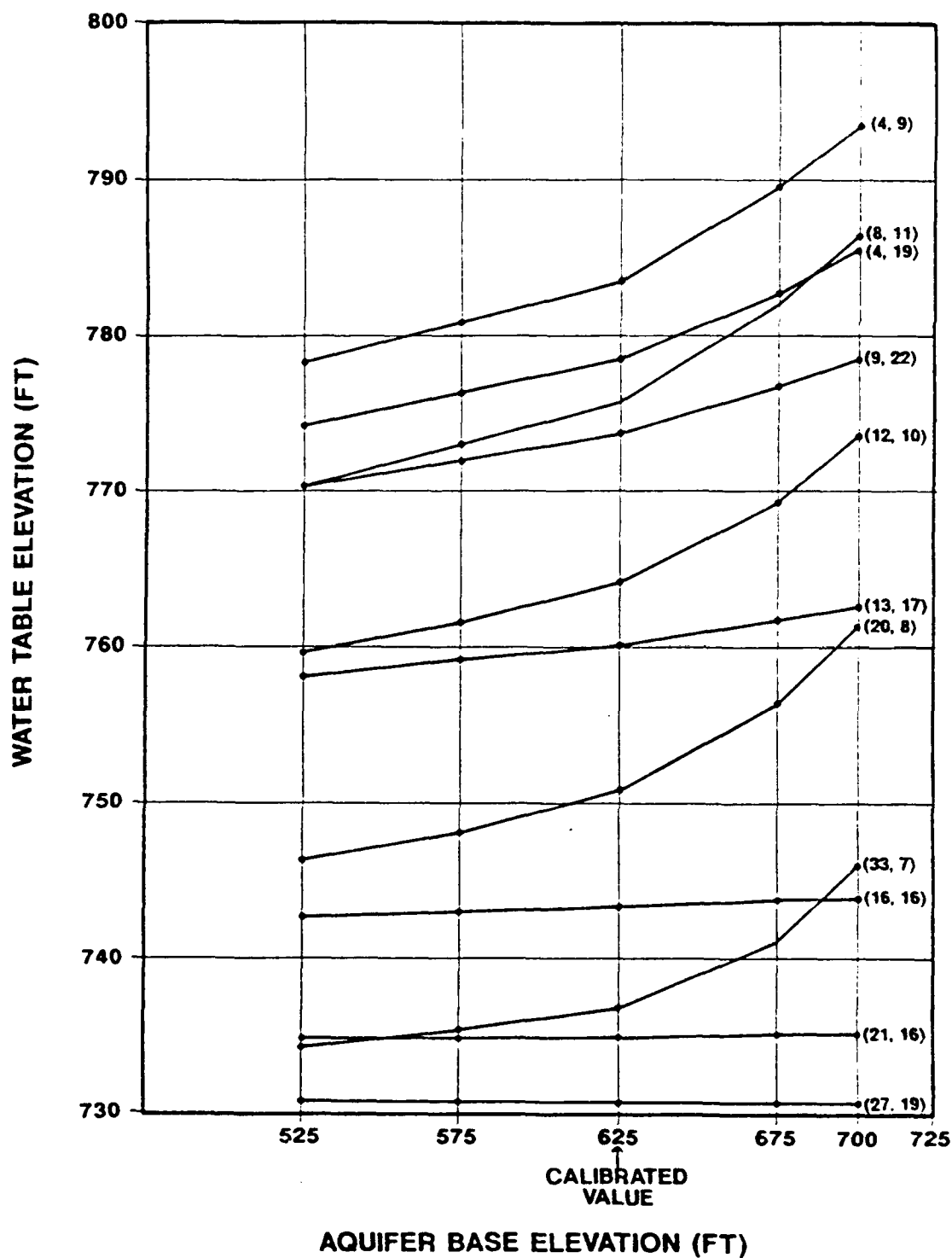


FIGURE J2-5
SENSITIVITY ANALYSIS CELLS:
GROUNDWATER FLOW MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT
ABB Environmental Services, Inc.

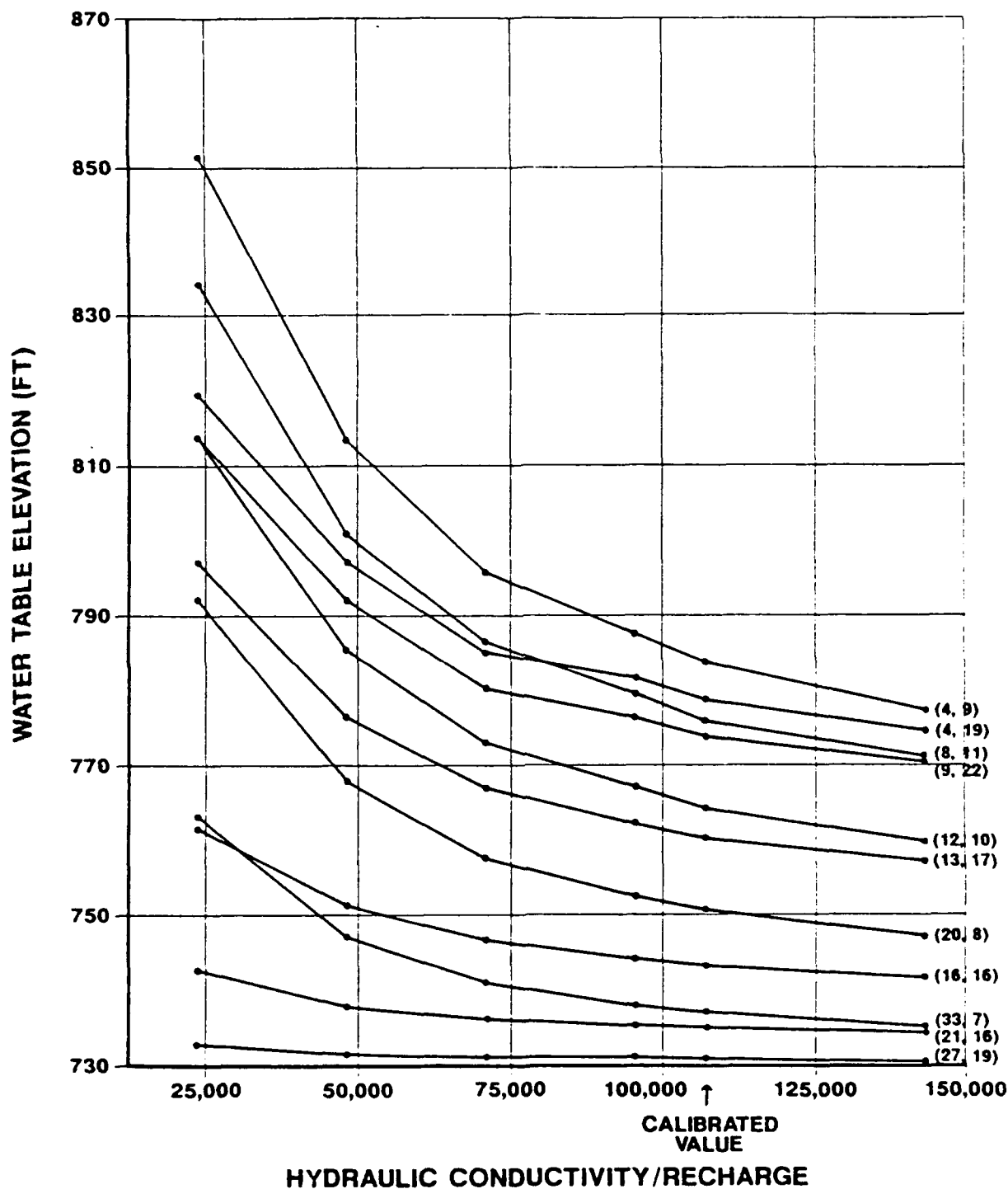


NOTE:

(4, 9) INDICATES MODEL CELL EVALUATED FOR SENSITIVITY ANALYSIS. THE CELLS ARE LOCATED IN FIGURE J.2-5.

FIGURE J.2-6
SENSITIVITY ANALYSIS -
AQUIFER BASE ELEVATION
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.

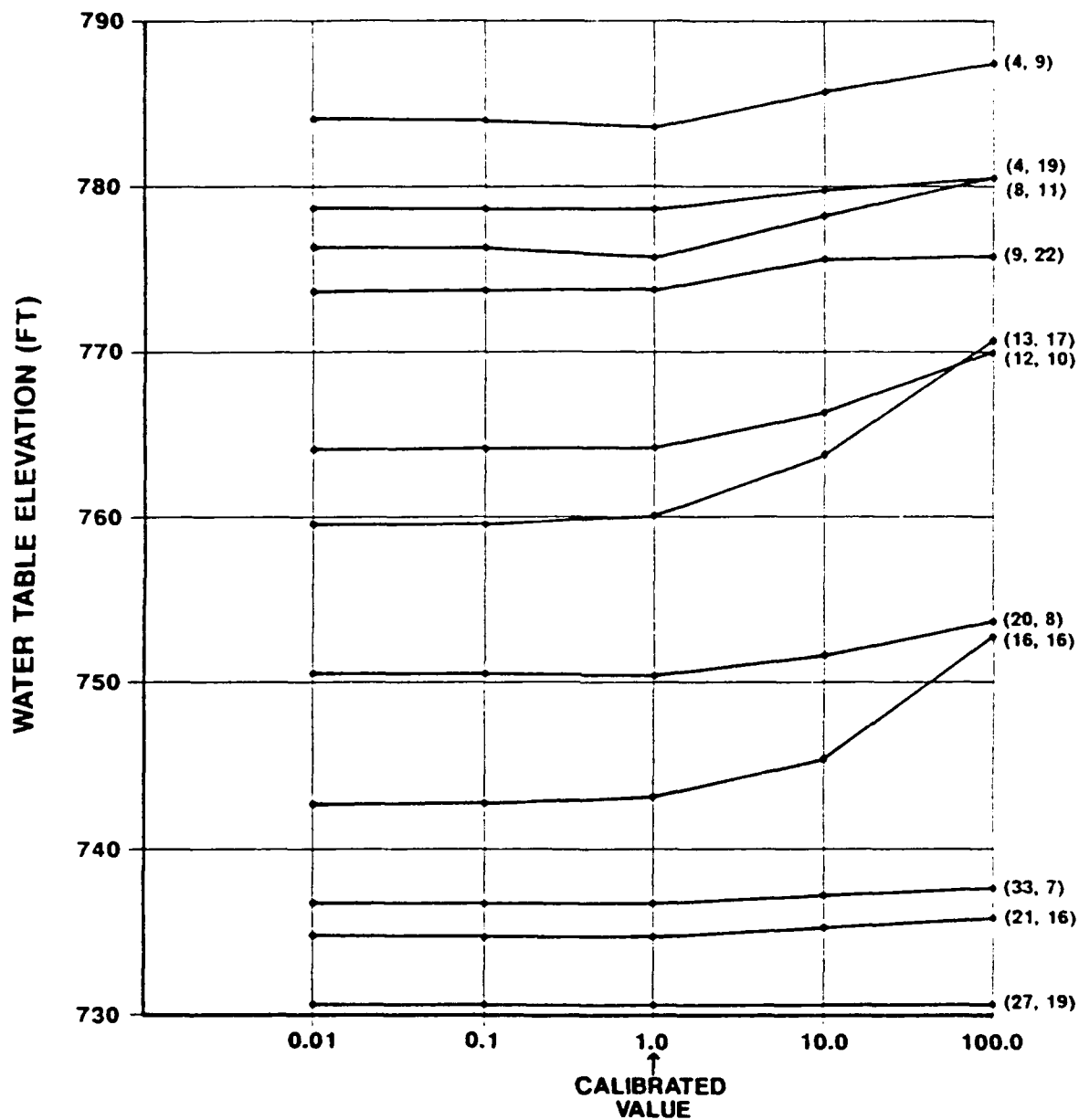


NOTES:

1. (4, 9) INDICATES MODEL CELL EVALUATED FOR SENSITIVITY ANALYSIS. THE CELLS ARE LOCATED IN FIGURE J.2-5.
2. DISCUSSION OF HYDRAULIC CONDUCTIVITY/RECHARGE RATIO INCLUDED IN SUBSECTION J.2-7.

FIGURE J.2-7
SENSITIVITY ANALYSIS -
HYDRAULIC CONDUCTIVITY/RECHARGE
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

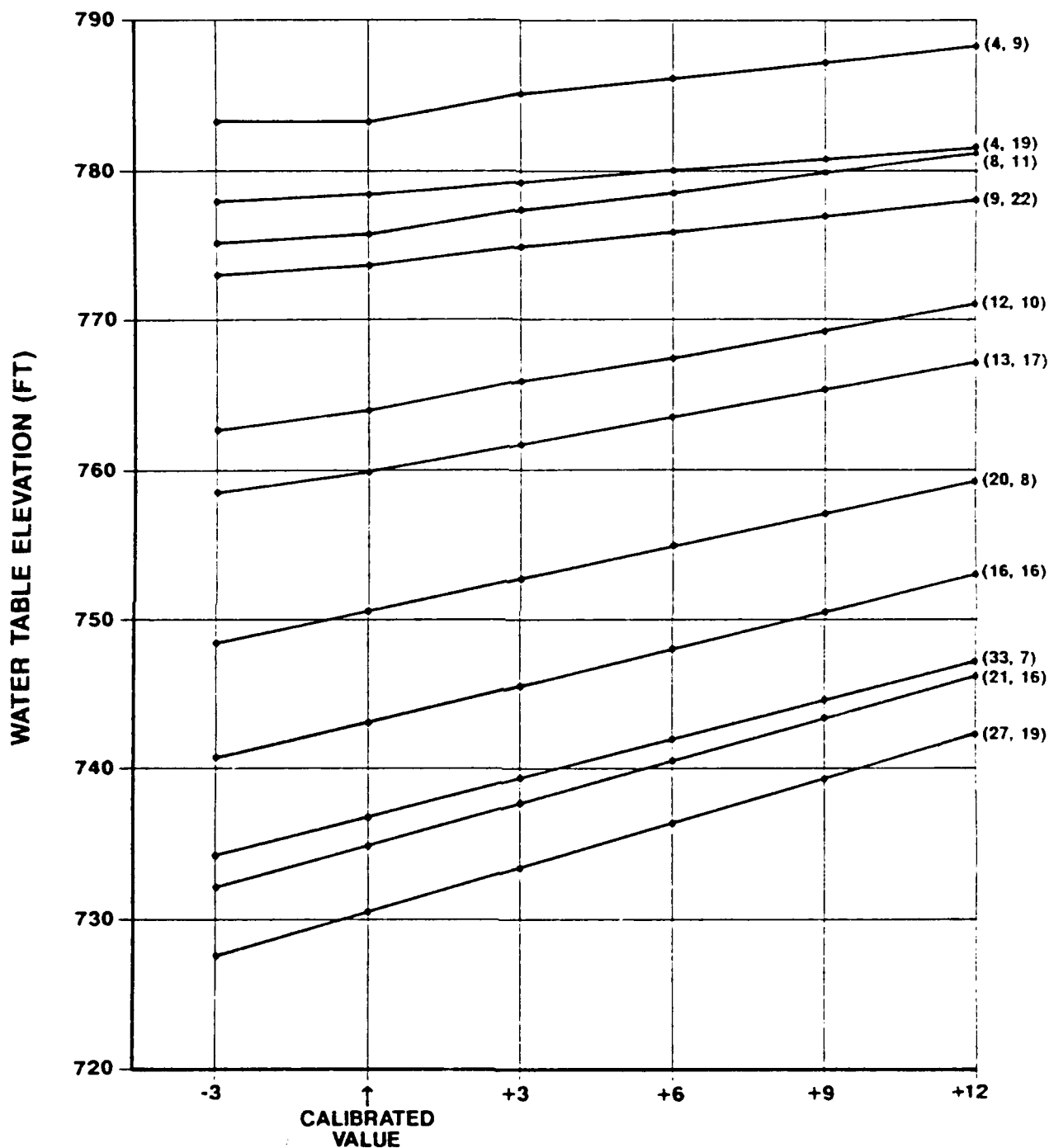
ABB Environmental Services, Inc.



**VARIATION IN STREAMBED CONDUCTANCE
BY ORDER OF MAGNITUDE**

NOTE: (4, 9) INDICATES MODEL CELL EVALUATED FOR SENSITIVITY ANALYSIS. THE CELLS ARE LOCATED IN FIGURE J.2-5.

**FIGURE J.2-8
SENSITIVITY ANALYSIS -
STREAMBED CONDUCTANCE
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT
ABB Environmental Services, Inc.**



NOTE:

(4, 9) INDICATES MODEL CELL EVALUATED FOR SENSITIVITY ANALYSIS. THE CELLS ARE LOCATED IN FIGURE J.2-5.

FIGURE J.2-9
SENSITIVITY ANALYSIS -
CONSTANT HEAD VARIATION
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABE Environmental Services, Inc.

BAAP Regional Groundwater Flow Model

MODFLOW Input Files

.0000E+00	.0000E+00	795.5	794.7	.0000E+00	.0000E+00	781.0	778.2	776.9	776.3
776.0	775.7	775.5	775.3	775.2	775.1	775.0	775.0	775.0	775.0
775.0	775.1	775.2	775.4						
.0000E+00	.0000E+00	.0000E+00	795.5	.0000E+00	.0000E+00	.0000E+00	774.2	773.9	773.7
773.5	773.4	773.3	773.2	773.1	773.1	773.1	773.2	773.3	773.5
773.6	773.9	774.3	775.0						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00	770.6	770.7	770.7
770.6	770.6	770.6	770.6	770.6	770.7	770.8	771.0	771.3	771.6
771.9	772.3	772.9	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00	765.4	766.9	767.3	767.5
767.5	767.5	767.5	767.5	767.6	767.7	767.9	768.3	768.8	769.3
769.9	770.8	771.9	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	764.1	762.5	763.3	763.9	764.2	764.2
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767.6	769.1	.0000E+00	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00	760.7	760.9	761.1	761.1	760.7
760.5	760.2	759.8	759.5	759.4	759.6	760.1	761.0	762.2	763.8
764.7	.0000E+00	.0000E+00	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	757.5	758.3	758.5	758.4	757.9	757.2
756.6	756.0	755.2	754.5	753.9	753.6	753.7	754.5	756.2	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	756.4	756.7	756.7	756.4	755.6	754.6
753.8	752.8	751.6	750.3	749.0	747.6	746.3	745.9	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	755.7	755.8	755.7	755.2	754.1	752.9
751.9	750.7	749.2	747.5	745.6	743.2	740.6	740.0	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
.0000E+00	.0000E+00	.0000E+00	.0000E+00	755.0	754.9	754.6	754.0	752.7	751.3
750.1	748.7	747.0	745.0	742.5	738.9	733.0	733.0	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
.0000E+00	754.6	754.1	754.0	754.3	754.1	753.6	752.8	751.4	749.8
748.5	747.0	745.1	742.9	740.4	737.0	733.0	.0000E+00	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
.0000E+00	754.4	753.9	753.7	753.6	753.3	752.7	751.7	750.1	748.4
747.1	745.5	743.6	741.4	739.0	735.9	732.5	.0000E+00	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
754.7	754.1	753.6	753.2	752.9	752.5	751.7	750.6	748.9	747.2
745.8	744.2	742.3	740.3	738.0	735.3	732.5	.0000E+00	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
754.6	753.9	753.2	752.7	752.3	751.7	750.8	749.5	747.8	746.1
744.7	743.1	741.3	739.4	737.3	734.9	732.0	732.0	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
754.3	753.6	752.8	752.2	751.6	750.9	749.9	748.5	746.7	745.0
743.7	742.2	740.5	738.7	736.9	734.9	732.9	731.5	.0000E+00	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
754.0	753.2	752.3	751.6	750.9	750.0	748.9	747.5	745.7	744.0
742.8	741.3	739.8	738.2	736.6	734.9	733.1	731.5	731.5	.0000E+00
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
753.7	752.7	751.8	751.0	750.2	749.2	748.0	746.5	744.7	743.1
741.9	740.6	739.1	737.7	736.2	734.7	733.2	731.9	731.0	731.0
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
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.0000E+00	.0000E+00	.0000E+00	.0000E+00						
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740.1	739.0	737.8	736.6	735.3	734.1	732.8	731.7	730.9	730.5
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
752.5	751.3	750.0	748.9	747.7	746.4	745.1	743.5	741.8	740.3
739.2	738.1	737.0	735.9	734.7	733.6	732.4	731.4	730.7	730.0
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
752.2	750.8	749.4	748.1	746.7	745.4	744.0	742.4	740.7	739.3
738.3	737.2	736.2	735.1	734.0	732.9	731.9	731.0	730.3	730.0
.0000E+00	.0000E+00	.0000E+00	.0000E+00						
751.9	750.5	748.8	747.2	745.7	744.3	742.9	741.3	739.6	738.2
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1 35

```

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.0000E+00 .0000E+00 .0000E+00 .0000E+00 .0000E+00 .0000E+00 775.0
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625.0 600.0 550.0
.0000E+00 750.0 750.0 750.0 725.0 700.0 675.0
650.0 650.0 650.0 650.0 650.0 650.0 650.0
650.0 625.0 625.0 625.0 625.0 625.0 625.0
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625.0 625.0 625.0 625.0 625.0 625.0 625.0
625.0 600.0 575.0
.0000E+00 .0000E+00 750.0 750.0 .0000E+00 .0000E+00 725.0
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.0000E+00 .0000E+00 .0000E+00 .0000E+00 750.0 700.0 675.0
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```


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[illegible]

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1	4	24	.774E+03 .153E+05
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0 0
0 14E-04

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24				
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1	10	23	774.0000	401.90000 730.0000
1	11	22	774.0000	294.60000 730.0000
1	11	23	774.0000	142.90000 730.0000
1	12	19	774.0000	142.90000 730.0000
1	12	21	774.0000	98.23000 730.0000
1	12	22	774.0000	428.60000 730.0000
1	13	18	774.0000	178.90000 730.0000
1	13	19	774.0000	259.00000 730.0000
1	13	20	774.0000	260.00000 730.0000
1	13	21	774.0000	169.70000 730.0000
1	14	17	774.0000	112.50000 730.0000
1	14	18	774.0000	254.00000 730.0000
1	14	19	774.0000	128.60000 730.0000
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1	16	16	774.0000	31.74000 730.0000
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1	16	18	774.0000	51.59000 730.0000

3	0	30	0
3	3	1	1
1	0	1	0

Appendix J.3

Propellant Burning Ground Groundwater Flow Model

J.3 PROPELLANT BURNING GROUND GROUNDWATER FLOW MODEL

Two three-dimensional groundwater flow models were constructed to assist in the interpretation of the overburden aquifer in the vicinity of the Propellant Burning Ground and Interim Remedial Measure (IRM) extraction wells. These models are intended to serve as a tool in furthering the conceptual understanding of the geologic and hydrogeologic conditions in this vicinity. This includes an assessment of the influence the existing IRM extraction wells are having on the aquifer. In addition, the models will be used to evaluate various alternatives proposed in the Feasibility Study (FS).

The models consisted of a generalized "box" model and a more site-specific Propellant Burning Ground model. The box model was developed to assess the importance of high permeability gravel zones on the vertical flow within the aquifer, particularly flow from the gravel zones to underlying sandy zones. This assisted in the delineation of layers within the site-specific model. The site-specific Propellant Burning Ground model is simulated with steady state conditions founded on the results of the BAAP regional model (see Appendix J.2). However, the site-specific model has a much finer grid spacing in the vicinity of the Propellant Burning Ground, allowing for a more detailed analysis of groundwater flow at and south of the Propellant Burning Ground, including assessment of IRM extraction well performance.

The discussion of the models includes a presentation of the conceptual geological framework as well as a summary of the hydraulic data collected and utilized for the model (see Section 6.3 for a detailed discussion of geologic and hydrogeologic findings). This discussion is followed by descriptions of the preprocessor and model code, assignments of model parameters and boundary conditions, results of model calibration, mass balance, and sensitivity analysis for each model.

J.3.1 Conceptual Setting

The modeling effort was based on a conceptual framework of the Propellant Burning Ground geologic/hydrogeologic system, that consists of an unconfined overburden aquifer under steady-state conditions. The overburden aquifer occurs in a thick sequence of highly permeable, unconsolidated sands and gravels, overlying sandstone bedrock units with a lower permeability. Within the Propellant Burning Ground Model gravel layers are assigned hydraulic conductivity values approximately 25 percent greater than the sand layers. The lower permeability of the bedrock unit likely limits groundwater flow between the bedrock and unconsolidated flow systems. Given this condition and the lack of available information about the bedrock flow system, the model does not include the bedrock units as part of the

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active aquifer. The lateral boundary conditions for the models were taken from the BAAP regional groundwater model (Appendix J.2). Boundary conditions for the models consist of no-flow boundaries to the east and west representing parallel flow lines and constant head boundaries on the northern and southern boundaries representing transects of equal head. The majority of the flow into the model is expected to enter and leave the model through the constant head boundaries, as the models represent a slice taken out of the larger model.

J.3.2 Data Collection

The majority of the aquifer data used in the two models came from the BAAP regional groundwater model (See Appendix J.2). Data from borings installed in the Propellant Burning Ground area were used to establish the elevations of the model layers (see Section 6.3). Data from the October 25, 1989 water level elevations and the December, 1991 pumping test (Appendix J.1) data were used to calibrate the site-specific Propellant Burning Ground model.

J.3.3 Software and Hardware

Selection of the groundwater model numerical code was based on several considerations: The code had to have the ability to include as boundary or initial conditions all significant hydrogeologic influences, be well accepted and documented, and be readily available for use by others (in the public domain). The USGS Modular Three-Dimensional Finite Difference Groundwater Flow Model Code (MODFLOW) (MacDonald and Harbaugh, 1988) was selected for the models. MODFLOW was selected for its ability to simulate three dimensional aquifer conditions, its flexibility in input parameter assignment and acceptability in the modeling community. The MODFLOW model output is a matrix of hydraulic heads at specified locations accompanied by a reiteration of the model input parameters and a mass balance.

The MODFLOW model code is installed as Geraghty and Miller's version for 386-based PC implementation (Geraghty and Miller, 1990). This version of the code also includes new modules for the Preconditioned Conjugate Gradient solver package, the Re-wetting package, and the Stream Routing package.

The governing equation for the model is based on the application of Darcy's Law and conservation of mass to the Laplace Equation and assumes that the axes are aligned along the principal flow directions or principal axis of anisotropy:

$$\frac{\delta}{\delta x}(K_{xx}b\frac{\delta h}{\delta x}) + \frac{\delta}{\delta y}(K_{yy}b\frac{\delta h}{\delta y}) + \frac{\delta}{\delta z}(K_{zz}b\frac{\delta h}{\delta z}) = S\frac{\delta h}{\delta t} + W(xyt)$$

where:

K_{xx} , K_{yy} and K_{zz} are values of hydraulic conductivity along the x, y and z axes
 b is the aquifer thickness
 h is the potentiometric head
 W is a volumetric flux representing sources and/or sinks
 S is the specific storage of the porous material
 t is time

This equation is solved at each cell of the model by using finite difference techniques. The finite difference technique solves the governing equation by approximating the solution to the partial differential equation through a system of algebraic equations which are applied to each individual cell. The solution to the system of equations is achieved by first assuming a head value for each cell, the initial head array, and then using matrix mathematics to revise the solution based on the various stresses applied to the model. The previous and present solutions are then checked against each other, and the process reiterated until a minimal preselected difference, the closure criterion, is attained between all cells for the two final solutions. In this modeling effort, a closure criterion of 0.01 feet was used.

The USGS particle tracking program MODPATH (Pollock, 1989) was selected for simulating groundwater flow lines. Flow lines are simulated by computing particle pathlines. MODPATH works with MODFLOW output to calculate changes in particle positions over time. The version of MODPATH used is Geraghty and Miller's version for 386-based PC implementation.

Output head matrices were contoured with Golden Software's SURFER (Golden Software, 1989) package during and simulation runs. Manual smoothing and interpretation was necessary for representation of conditions along the edges of the model due to limitations of the software to deal appropriately with some boundary conditions.

MODELCAD (developed by Geraghty and Miller, Inc. 1989), a graphical interface groundwater model preprocessor was used to assemble the data sets for MODFLOW. This

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preprocessor enables the user to visually assemble the model data sets, easily developing the model grid, boundary conditions, layers and parameters.

J.3.4 Box Model

A simple box model was created to assess the hydrogeologic interaction of the interbedded sand and gravel layers during the pumping of an extraction well. This effort was undertaken to establish the degree to which groundwater flow is dominated by the gravel layers. A single pumping well, screened in the top sand and gravel layers, was located in the middle of the box. The model was run as a steady state model, with particle tracking to determine layer interaction.

J.3.4.1 Model Parameters

The box model consisted of seven layers, dividing the overburden aquifer above the bedrock into five sand layers (layers 1, 3, 4, 5, and 6) and two gravel layers (layers 2 and 7) (see Figure J.3-1). All figures are located at the end of this Appendix Section. Layer thicknesses were based upon borings made in the area of the Propellant Burning Ground IRM extraction wells. Grid spacing was 50 feet for both rows and columns. The final model consisted of 45 rows and 50 columns (2,250 cells). Figure J.3-2 shows the grid and the assignment of boundary conditions.

The box model boundaries consisted of constant head cells of 772 feet along the northern boundary and 769 feet along the southern boundary, with no-flow boundaries along the eastern and western boundaries. The no-flow boundaries represent flow lines. As discussed in the regional model (Appendix J.2), it is assumed that bedrock flow system does not interact with the overburden aquifer.

Horizontal hydraulic conductivity for the sand layers was set at the same value as the regional model (150 ft/day). Horizontal hydraulic conductivity for the gravel layers was set at 1,500 ft/day. Although this is higher than most estimates of the hydraulic conductivity for the gravel layers, this value was selected as a "worst case" conservative scenario where the gravel layer may dominate flow. Vertical hydraulic conductivity was set at 3 times less than the horizontal hydraulic conductivity to also provide a conservative model.

The value for the recharge rate remained the same as in the regional model (6 in./yr). For the MODPATH particle tracking, the aquifer porosity is required, its value was set at .30, an average value for sand and gravel. The pumping rate for the well was set at 100 gpm (the rated capacity of the existing IRM extraction wells). This rate was split proportionally

between layers 1 and 2. Particles simulating the contaminant plume were input into the north edge of the model for 600 feet on either side of the well to simulate groundwater flow toward the pumping well.

J.3.4.2 Calibration

This model was constructed as a conceptual/schematic model. The heads were derived from the BAAP regional model for the area near the IRM extraction wells. No calibration was conducted as the model was intended only to evaluate the influence of vertical flow between the sand and gravel layers and to assess the need for vertical layering in the site-specific model.

J.3.4.3 Mass Balance

Table J.3-1 presents the mass balance output for the box model. As this table indicates, there was a good correlation between input and output water volumes (0.06 percent discrepancy). As the model was calibrated to steady state conditions, there was no gain (input) or loss (output) in storage. Water supplied to the model was dominated by flow from the constant head cells in the north end of the model (96%) with the remainder being supplied by recharge (4%). Water left the model primarily through constant head cells on the southern boundary of the model (89%) with the remainder being pumped out of the IRM extraction wells (11%).

J.3.4.4 Sensitivity Analysis

The box model underwent a sensitivity analysis in which the values of model parameters were independently varied to determine the sensitivity of each parameter within the model. This analysis was conducted by varying horizontal and vertical hydraulic conductivity, recharge, constant head elevation, and bottom elevation in independent steady state simulations. Figure J.3-3 shows the locations of the cells analyzed in the sensitivity analysis. This included cells:

17,10,1	-	Layer 1, near the northern boundary.
22,13,1	-	Layer 1, north of the extraction well.
23,16,1	-	Layer 1, south of the extraction well.
23,20,1	-	Layer 1, south of the extraction well.
32,27,1	-	Layer 1, south of the extraction well.
4,38,1	-	Layer 1, near the southern boundary.
43,37,1	-	Layer 1, near the southern boundary.

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23,16,2	-	Layer 2, south of the extraction well.
23,20,2	-	Layer 2, south of the extraction well.
23,16,5	-	Layer 5, south of the extraction well.
23,20,5	-	Layer 5, south of the extraction well.

Model response to variation in each of the five parameters was analyzed by comparing the water level change in each cell as each parameter was varied above and below its calibrated value. The results of the IRM Extraction model sensitivity analysis are presented in Figures J.3-4 through J.3-8.

Figure J.3-4 illustrates the sensitivity of the model to horizontal hydraulic conductivity. The model did not show a great response to reasonable changes in sand layer hydraulic conductivity over the range that was analyzed. Only the cells close to the pumping well (23,16 and 23,20, layers one and two) show an increase in head as sand horizontal hydraulic conductivity is increased.

Figure J.3-5 illustrates the sensitivity of the model predicted to variation in the vertical hydraulic conductivity. The evaluated model cells did not show a great response to the changes in vertical hydraulic conductivity over the range analyzed. Again, only the cells close to the pumping well (23,16 and 23,20, layers one and two) show an increase in head as vertical hydraulic conductivity is increased. One cell (23,16 in the fifth layer) decreased when the horizontal/vertical hydraulic conductivity reached 1:1. This reflects the pumping well zone-of-influence reaching the fifth layer with this lower horizontal/vertical hydraulic conductivity ratio.

Figure J.3-6 illustrates the sensitivity of the model to variations in the constant head boundary conditions. Heads along southern constant head boundary were varied. The response of the model was an increase along the head as the constant head boundaries were increased for all evaluated cells. Cells closer to the constant head boundaries being varied correlated closely with the amount that the constant head cells were varied. Cells further from the varied constant head boundaries had less of a change in value.

Figure J.3-7 illustrates the sensitivity of the model to the recharge. The evaluated model cells did not show a great response to the changes in recharge over the range that was analyzed. Only one cell, close to the pumping well (23,20 in the first and second layers), shows an increase in head as recharge is increased from 3 inches/year to 5 inches/year. Figure J.3-8 illustrates the sensitivity of the model to the thickness of the upper gravel layer (layer 2). The evaluated cells did not show a great response to the changes in gravel layer thickness over the range that was analyzed. Only the cells close to the pumping well (23,16

and 23,20, in the first and second layers) show an increase in head as the gravel layer thickness is increased.

The box model was most sensitive to changes in constant heads over the range of parameters analyzed. The model demonstrated only moderate sensitivity in cells close to the pumping well to variation in the other model parameters.

J.3.4.5 Results

Even with a conservative maximum horizontal hydraulic conductivity of 1,500 ft/day in the gravel layers (layers 2 and 7), the pumping well influenced groundwater flow in layer 7, immediately above the bedrock. This indicates that the gravel layers do not dominate flow in the overburden aquifer. Figures J.3-9 through J.3-15 show the simulated potentiometric surfaces and particle flowlines in the different layers. In the top two layers, capture zone radius is approximately 100 feet (layer 1) and 50 feet (layer 2). As expected, there was a limited ability for the pumping well to capture particles in the deeper layers.

J.3.5 Site-Specific Propellant Burning Ground Model

The site-specific Propellant Burning Ground model was developed to provide a more detailed model of this area and to evaluate the effectiveness of the IRM extraction wells. This model is intended to serve as a tool in evaluating different remedial measures for the Propellant Burning Ground during the FS.

J.3.5.1 Model Parameters

The Propellant Burning Ground model covers the Propellant Burning Ground and an area 2,000 feet to the south of the southern BAAP Boundary and 1,000 feet to the east and west. The study area was approximately 10,125 feet long by 7,250 feet wide (See Figure J.3-16). Groundwater flow is generally southward across the site with an approximately 13-foot drop in head across the site (gradient equals 0.0013 ft/ft).

The Propellant Burning Ground model consisted of five layers, representing the three sand layers (layers 1, 3 and 4) and two gravel layers (layers 2 and 5) of the overburden aquifer (See Figure J.3-17). The lower sand unit was split into two model layers to assess the movement of particles in this area. Gravel layer and bedrock elevations were based upon borings made during the installation of the Propellant Burning Ground monitoring wells and borings.

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The initial Propellant Burning Ground model boundaries consisted of constant head cells of 776 feet along the northern boundary and 763 feet at the southern boundary, with no-flow boundaries along the eastern and western boundaries. The boundary types and constant head elevations were derived from the results of the calibrated BAAP regional model (Appendix J.2).

Initial horizontal hydraulic conductivity was assigned the same value as the box model (150 ft/day for the sand layers and 1,500 ft/day for the gravel layers). Vertical conductivity for each layer was also set at 10 times less than the horizontal conductivity.

The recharge rate was set at 6 in/yr, using the same value as the regional model. Porosity, required for the particle tracking program, was set at .30 for all model layers. The pumping rate for the extraction wells was evaluated at 60 and 200 gpm, split proportionally between layers 1 and 2. These rates reflect existing conditions (60 gpm) and the pumping rate utilized for the BCW-3 aquifer test (200 gpm). Particles were started in columns 7 to 50 in the first row of each layer (3,100 feet wide). The width of the simulated plume was chosen to approximate the Propellant Burning Ground contaminant plume at a location in the central portion of the site.

Once basic site parameters were quantified, a base map was set up in MODELCAD. A grid with spacing of 250 feet for both rows and columns, was superimposed on the map. To increase model definition in the area of the IRM extraction wells, the grid density was increased by fining the spacing down to 50 feet. South of the IRM extraction wells the row spacing was set to 125 feet. Figure J.3-16 shows the location of the grid in relation to the IRM extraction wells and also details the boundary conditions for the model. The final grid consisted of 80 rows and 60 columns (4,800 cells).

J.3.5.2 Model Calibration

The Propellant Burning Ground model was first calibrated by approximating the conditions from the regional model and adjusting them to provide a reasonable fit to the known average conditions.

The Propellant Burning Ground model was then calibrated by comparing the head output by the model to values collected from monitoring wells on October 25, 1989. This date was chosen because it was used to calibrate the regional model. The comparison is summarized in Table J.3-2. Figure J.3-18 shows the location of the cells used for the calibration. The average difference for cells used in the calibration is approximately .5 foot.

As a further calibration, the model was run with parameters to simulate the aquifer test (See Appendix J.1). IRM extraction well BCW-3 was pumped at 200 GPM with BCW-1 and BCW-2 turned off. The horizontal hydraulic conductivity of the overburden sand and gravel layers were set at 195 and 240 ft/day, respectively.

Because of the change in the horizontal hydraulic conductivity, the regional model was rerun using a hydraulic conductivity of 195 ft/day. Heads in the Propellant Burning Ground model area from the BAAP regional model initial calibration and the supplemental calibration are presented in Table J.3-3. Heads in the vicinity of the Propellant Burning Ground decreased by approximately 5 feet from the 150 ft/day initial calibrated regional model to the supplemental calibrated regional model, resulting in a better match with the October 25, 1989 water levels. This enabled an adjustment of the southern constant head cells to elevations approximately 1.5 feet lower than the initial calibrated values.

Figure J.3-19 shows a cross section of the aquifer comparing the elevation of a particle "recharging" the model at cell (1,30) in the first layer of the model (a location equivalent to the southern end of the Propellant Burning Ground). Water recharging the aquifer from this area is uncontaminated. As Figure J.3-19 indicates, the observed CCL4 plume sinks south of this area in response to accretion of uncontaminated recharge at the water table. The particle, sinking due to modeled recharge, provides a good fit to the observed sinking contaminant plume.

For the final calibration the following parameters were applied:

- Horizontal Hydraulic Conductivity in sand layers: 195 ft/day
- Horizontal Hydraulic Conductivity in gravel layers: 240 ft/day
- Northern Constant Head cells: 776.0 feet
- Southern Constant Head Cells: 761.5 feet
- Horizontal\Vertical Anisotropy Ratio: 3:1
- Recharge: 6 inches/year

J.3.5.3 Mass Balance

Table J.3-4 presents the mass balance output for the calibrated Propellant Burning Ground model. As this table indicates, there was a good correlation between input and output water volumes (0.61 percent discrepancy). As the model was calibrated to steady state conditions, there was no gain (input) or loss (output) in storage. Water supplied to the model was dominated by flow from the constant head cells in the north end of the model (78%) with the remainder being supplied by recharge (22%). Water left the model primarily through

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constant head cells on the southern boundary of the model (88%) with the remainder being pumped out of the IRM extraction wells (12%).

The conceptual model for this model indicates that the majority of the flow entering and leaving the model would come from the constant head cells at the boundaries. Darcy's Law was used to calculate a rough flow across the boundaries, using an average thickness (layer thickness varied in response to bedrock elevation) and hydraulic gradient for each model layer. The total calculated amount of flow across the boundaries is 348,080.3 ft³. This is 89% of the input flux the model calculated for the constant head cells and 98% of the output flux for the southern constant head cells.

J.3.5.4 Sensitivity Analysis

Following calibration the Propellant Burning Ground model underwent a sensitivity analysis in which the values of model parameters were independently varied to determine the sensitivity of each parameter within the model. This analysis was conducted by varying vertical and horizontal hydraulic conductivity, recharge, constant head elevation, and gravel layer thickness in independent steady state simulations.

Ten observation cells spaced throughout the active model were specified for comparison of the sensitivity evaluations. Figure J.3-18 presents the cell locations. The ten cells are:

4,7,1	-	Layer 1, near the northern boundary.
11,54,1	-	Layer 1, near the northern boundary.
28,21,1	-	Layer 1, south of the extraction wells.
34,14,1	-	Layer 1, near extraction well BCW-1.
48,41,1	-	Layer 1, south of the extraction wells.
74,5,1	-	Layer 1, near the southern boundary.
76,55,1	-	Layer 1, near the southern boundary.
34,14,3	-	Layer 3, near extraction well BCW-1.
34,14,5	-	Layer 5, near extraction well BCW-1.
75,12,5	-	Layer 5, near the southern boundary.

Model response to variation in each of the five parameters was analyzed by comparing the water level change in each cell as each parameter was varied above and below its calibrated value. The results of the Propellant Burning Ground model sensitivity analysis are presented in Figures J.3-20 through J.3-24.

Figure J.3-20 illustrates the sensitivity of the model to variations in the horizontal hydraulic conductivity of the sand layers. The evaluated model cells varied slightly as the sand hydraulic conductivity was varied. The cells in the center of the model show a greater variation than the cells close to the constant head boundaries.

Figure J.3-21 illustrates the sensitivity of the model to variations in the horizontal/vertical hydraulic conductivity ratio. The model shows a slight decrease in heads with an increase in vertical hydraulic conductivity.

Figure J.3-22 illustrates the sensitivity of the model to variations in constant head. The response of the model was linear at all evaluated cells. Cells close to the constant head boundaries being varied, correlated closely with the amount that the constant head boundaries were varied. Cells further from the varied constant head boundaries had less variation in water level elevation.

Figure J.3-23 illustrates the sensitivity of the model to the recharge. The evaluated cells increased slightly as the recharge was increased. The greatest changes occurred in the center of the model, away from the influence of the constant head boundaries. The range of recharge was not large enough to cause the groundwater flow to change direction.

Figure J.3-24 illustrates the sensitivity of the model to the thickness of the upper gravel layer. Borings made in the area around the Propellant Burning Ground show gravel layer thicknesses up to 30 feet thick. The evaluated model cells did not show a great response to the changes in gravel layer thickness over the range that was analyzed.

Because of the effect of recharge on particle depth, a sensitivity analysis was performed comparing the change in particle depth as recharge is varied. Figures J.3-25 shows the sensitivity of a particle starting at cell (1,30,1) to variation in recharge. Variations of 2 inches per year of recharge produce a 10 foot difference in depth over a 10,000 foot particle track.

The Propellant Burning Ground model was most sensitive to changes in constant head boundaries over the range of parameters analyzed. The model demonstrated only moderate sensitivity to variation in the other model parameters.

J.3.5.5 Results

The calibrated Propellant Burning Ground model was run with the IRM extraction wells set to simulate the December 1991 aquifer test. Figures J.3-26 through J.3-30 illustrate the

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output heads for the five aquifer layers of the Propellant Burning Ground model with one extraction well (BCW-3) pumping at 200 gpm, one well (Source Control Well 1) pumping at 60 gpm and two wells (BCW-1 and BCW-2) not pumping. A comparison of the drawdowns measured during the actual aquifer test and from the model are presented in Table J.3-5. The results indicate good correlation. At 75 feet from BCW-3, the model was within 0.01 feet of the average observed water level. At 250 feet from BCW-3, the model simulated the well drawdown to approximately 0.1 foot.

Figures J.3-31 through J.3-35 illustrate the potentiometric surface contours and particle tracking for the Propellant Burning Ground model with the four IRM extraction wells operating at 60 gpm. The wells are capturing particles in a 100 foot radius around the extraction wells in the top layer (layer 1). Vertically the model indicates particle capture predominately in the top two layers (60 feet below the water table) with limited particle capture in the third layer (60 to 150 feet below the water table) and only disturbance of the particle paths in the bottom two layers. In the bottom two layers, the extraction wells only changed the flow lines of particles, drawing them closer together.

J.3.6 Summary and Conclusions

Two three-dimensional, numerical groundwater flow models simulating the conditions in the Propellant Burning Ground have been developed and calibrated. The modeled heads, flow directions and gradients match well with water level elevations measured in the field. Mass balance within the model as well as that measured between the model and field conditions correlate well.

The sensitivity analyses performed on the models indicate that the model is most sensitive to changes in the constant head boundary elevations. Changing the other parameters caused slight variations in head, primarily at the interior cells.

The box model is useful in understanding the interaction between the sand and gravel layers of the aquifer. The gravel layers do not appear to dominate groundwater flow, even using a gravel hydraulic conductivity one order of magnitude higher than the sand layer. The box model also served as the basis for establishing layers in the Propellant Burning Ground model.

The Propellant Burning Ground model indicates that the current IRM extraction wells are partially effective at capturing the Propellant Burning Ground groundwater contaminant plume. Based on particle tracking at the current pumping rate, the model shows the IRM extraction wells to have a horizontal capture zone of approximately 100 feet in the top sand

layer (layer 1) and a horizontal capture zone of approximately 50 feet in the top gravel layer (layer 2). In the second sand layer(layer 3) the capture zone is approximately 25 feet. In layers 4 and 5, no particles are captured. However, the flow line particles are drawn closer together. This site-specific modeling effort indicates that contaminated groundwater is flowing past the IRM extraction wells.

J.3 REFERENCES

- Gerhaghty and Miller, 1989. *Documentation of MODELCAD*, Reston, VA.
- Gerhaghty and Miller, 1990. *Documentation of MODFLOW and MODPATH for 386-based PC implementation*, Reston, VA.
- Golden Software, 1989. *Documentation of SURFER*, Golden, CO.
- McDonald, M.G. and A.W. Harbaugh, 1988. *A Modular Three-dimensional Finite-difference Groundwater Flow Model*, U.S. Geological Survey, National Center, Reston, VA.
- Pollock, D.W., 1989. *Documentation of Computer Programs to Compute and Display Pathlines Using Results from the U.S. Geological Survey Three-dimensional Finite-difference Groundwater Flow Model*, U.S. Geological Survey, National Center, Reston, VA.

TABLE J.3-1
MASS BALANCE
BOX MODEL

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

IN (WATER ENTERING MODEL)	OUT (WATER LEAVING MODEL)
Storage = 0.0	Storage = 0.0
Constant Head Boundary = 181,580 (96%)	Constant Head Boundary = 170,050 (88.8%)
Wells = 0.0	Wells = 19,057 (11.2%)
Recharge = 7,398 (4%)	Recharge = 0.0
Total In = 188,980	Total Out = 189,100

Notes:

1. All volumes are in cubic feet
2. In/Out difference is 121.59 cubic feet. This is equivalent to a 0.06 percent difference.

TABLE J.3-2
COMPARISON OF CALIBRATED MODEL VALUES
TO OBSERVED WATER TABLE VALUES

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

CELL	WELL	MODEL	10/25/89	ABSOLUTE VALUE DIFFERENCE
03,45	PBM-89-09	775.3	776.4	1.10
08,45	PBN-89-10A	773.4	773.15	0.25
08,45	PBN-89-10B	773.4	773.11	0.29
08,45	PBN-89-10C	773.4	773.43	0.03
08,45	PBN-89-10D	773.4	773.19	0.21
09,33	PBM-82-01	773	773.9	0.90
11,59	S-1115	772.8	772.8	0.00
14,49	PBM-89-06	771.1	770.9	0.20
15,39	PBM-85-01A	770.6	771.61	1.01
15,39	PBN-89-01B	770.6	770.97	0.37
15,39	PBN-89-01C	770.6	770.97	0.37
15,39	PBN-89-01D	770.6	771.02	0.42
15,14	PBN-89-05	770.7	770.7	0.00
17,38	PBN-82-04	771.9	771.9	0.00
17,38	PBN-85-04A	769.8	770	0.20
17,38	PBN-89-04B	769.8	768.34	1.46
17,38	PBN-89-04C	769.8	768	1.80
18,5	S-1109	769.5	769	0.50
26,26	PBM-89-07	768.1	768.4	0.30
30,47	PBM-89-08	768.1	768.41	0.31
53,37	PBN-89-12A	766.3	766.3	0.00
53,37	PBN-89-12B	766.3	766.19	0.11
64,28	SPN-89-03A	764.4	764	0.40
64,28	SPN-89-03B	764.4	763.73	0.67
64,28	SPN-89-03C	764.4	763.66	0.74
65,5	SPN-89-01	764.2	763.7	0.50
66,45	SPN-89-04	764.1	763.4	0.70
			Average:	0.48

Note:

All values are in feet

TABLE J.3-3
REGIONAL MODEL COMPARISON OF INITIAL CALIBRATION TO SUPPLEMENTAL CALIBRATION

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

MODEL CELL	INITIAL CALIBRATION (FEET MSL)	SUPPLEMENTAL CALIBRATION (FEET MSL)	DIFFERENCE (FEET)
8,9	777.4	771.6	5.80
8,10	776.8	771.1	5.70
8,11	776.4	770.9	5.50
8,12	776.1	770.7	5.40
8,13	775.9	770.6	5.30
8,14	775.7	770.5	5.20
8,15	775.5	770.5	5.00
9,9	774.3	768.8	5.50
9,10	774	768.6	5.40
9,11	773.9	768.6	5.30
9,12	773.7	768.5	5.20
9,13	773.6	768.5	5.10
9,14	773.5	768.5	5.00
9,15	773.4	768.5	4.90
10,9	771	765.8	5.20
10,10	771	765.8	5.20
10,11	770.9	765.9	5.00
10,12	770.9	765.9	5.00
10,13	770.8	766	4.80
10,14	770.8	766	4.80
10,15	770.8	766.1	4.70
11,9	767.6	762.7	4.90
11,10	767.7	762.9	4.80
11,11	767.7	763	4.70
11,12	767.7	763	4.70
11,13	767.7	763.1	4.60
11,14	767.7	763.2	4.50
11,15	767.8	763.3	4.50

TABLE J.3-3
REGIONAL MODEL COMPARISON OF INITIAL CALIBRATION TO SUPPLEMENTAL CALIBRATION

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

MODEL CELL	INITIAL CALIBRATION (FEET MSL)	SUPPLEMENTAL CALIBRATION (FEET MSL)	DIFFERENCE (FEET)
12,9	764.4	759.8	4.60
12,10	764.4	759.8	4.60
12,11	764.3	759.9	4.40
12,12	764.2	759.8	4.40
12,13	764.1	759.8	4.30
12,14	764.1	759.9	4.20
12,15	764.1	760.0	4.10
		Average:	4.92

Note:

All values are in feet

**TABLE J.3-4
MASS BALANCE
SITE-SPECIFIC PROPELLANT BURNING GROUND MODEL**

**REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT**

IN (WATER ENTERING MODEL)	OUT (WATER LEAVING MODEL)
Storage = 0.0	Storage = 0.0
Constant Head Boundary = 313,090 (78%)	Constant Head Boundary = 352,700 (88.4%)
Wells = 0.0	Wells = 46,192 (11.6%)
Recharge = 88,237 (22%)	Recharge = 0.0
Total In = 401,330	Total Out = 398,890

Notes:

1. All volumes are in cubic feet
2. In/Out difference is 2440.7 cubic feet. This is equivalent to a 0.61 percent difference.

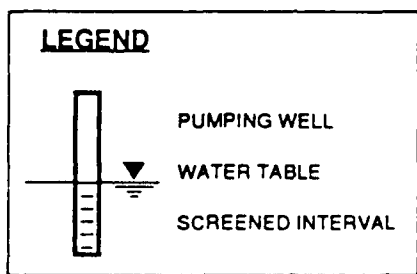
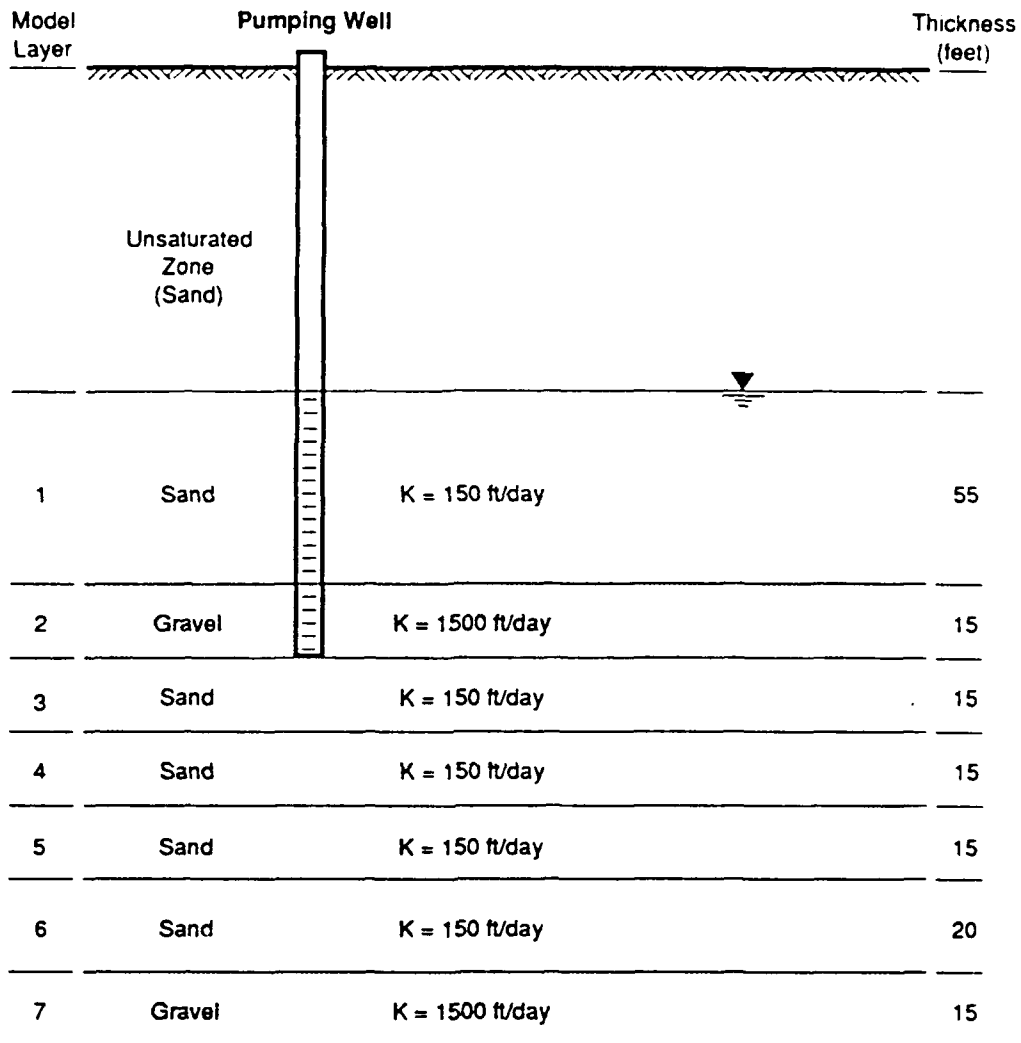
TABLE J.3-5
COMPARISON OF MODEL CALIBRATED VALUES TO PUMPING TEST AVERAGES

REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

WELL	DISTANCE	ACTUAL DRAWDOWN	MODEL PREDICTED DRAWDOWN	DIFFERENCE
PBP-91-01	75	0.51	0.5	0.01
PBP-91-02	219	0.32	0.2	0.12
PBP-91-06	199	0.3	0.2	0.1
PBN-89-04	250	0.2	0.1	0.1

Note:

All Values are in feet



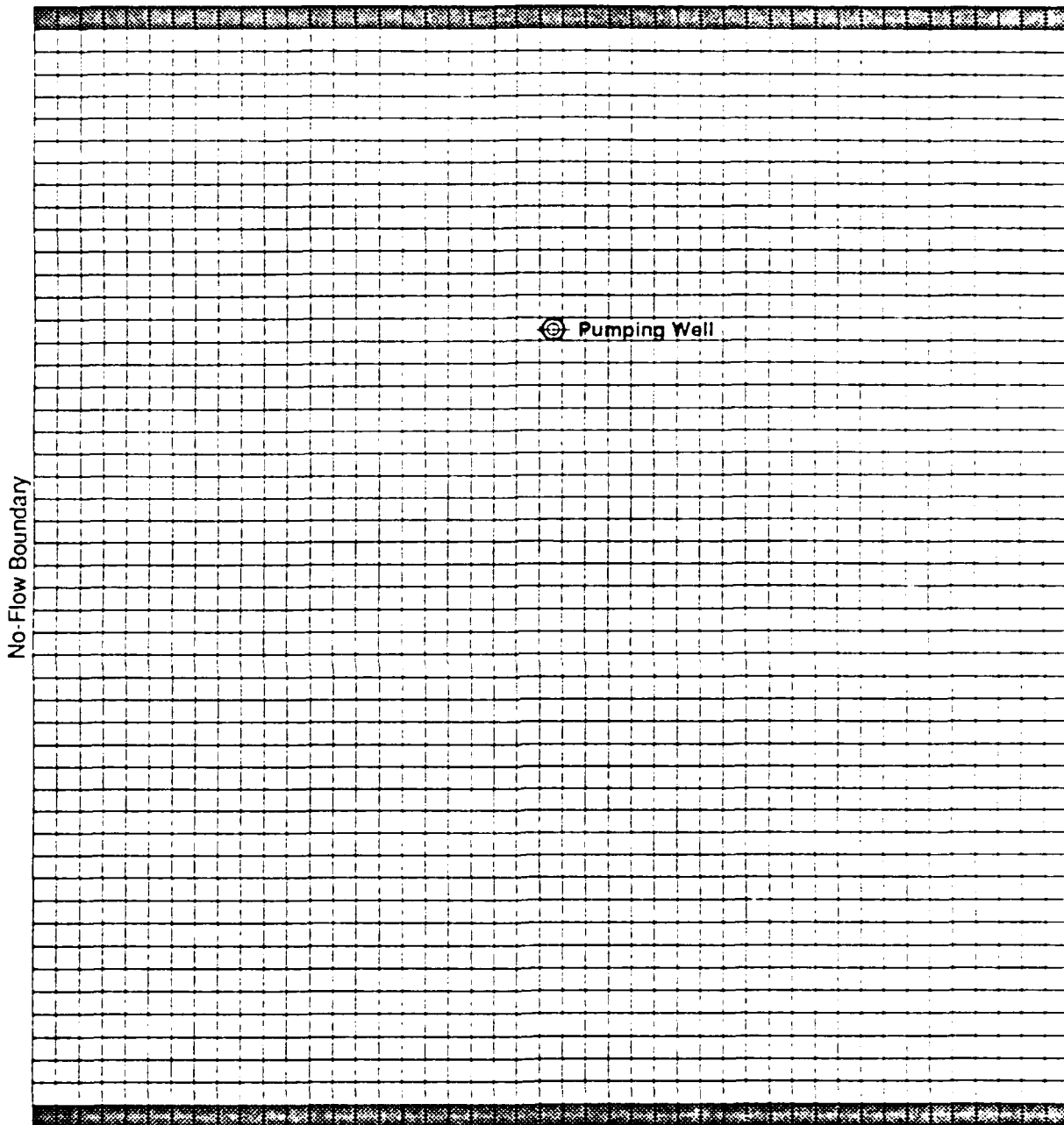
NOT TO SCALE

FIGURE J.3-1
BOX MODEL LAYERS
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



Constant Head Boundary = 772 FT MSL



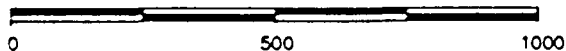
Constant Head Boundary = 769 FT MSL

LEGEND



CONSTANT HEAD CELL

SCALE IN FEET

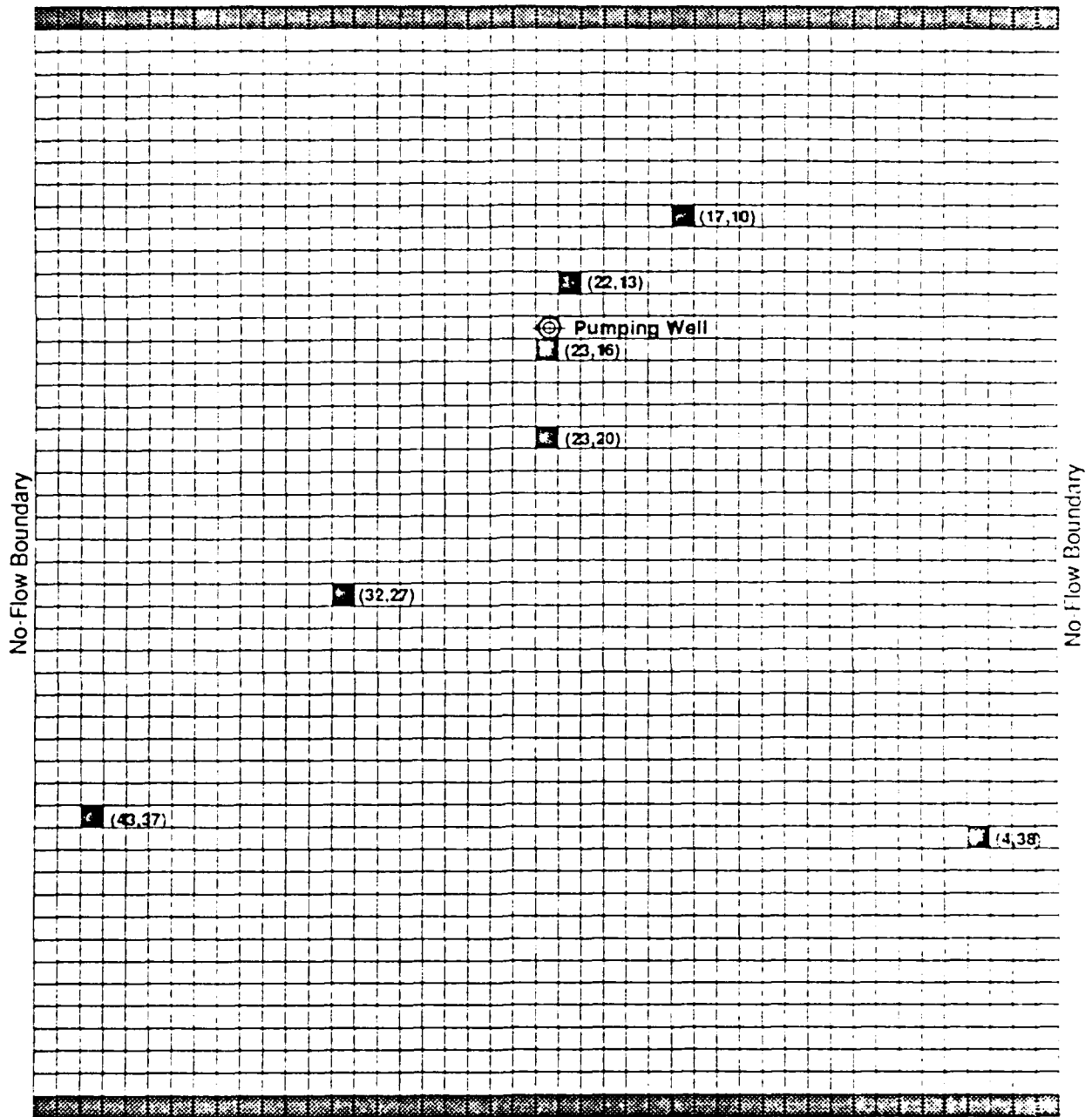


**FIGURE J.3-2
BOX MODEL GRID
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT**

ABB Environmental Services, Inc.



Constant Head Boundary = 772 FT MSL



LEGEND



CONSTANT HEAD CELL



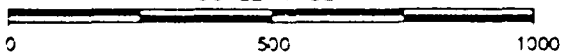
LOCATION AND DESIGNATION OF CELL
EVALUATED IN SENSITIVITY ANALYSIS

COLUMN NUMBER

(43,37)

ROW NUMBER

SCALE IN FEET



NOTE:

ALL CELLS EVALUATED FOR SENSITIVITY ARE IN LAYER 1
(TOP OF MODEL) EXCEPT 23-16 AND 23-20 WHERE LAYERS
2 (GRAVEL) AND 5 (SAND) WERE ALSO EVALUATED

FIGURE J.3-3
LOCATIONS OF CELLS USED IN
SENSITIVITY ANALYSIS
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.

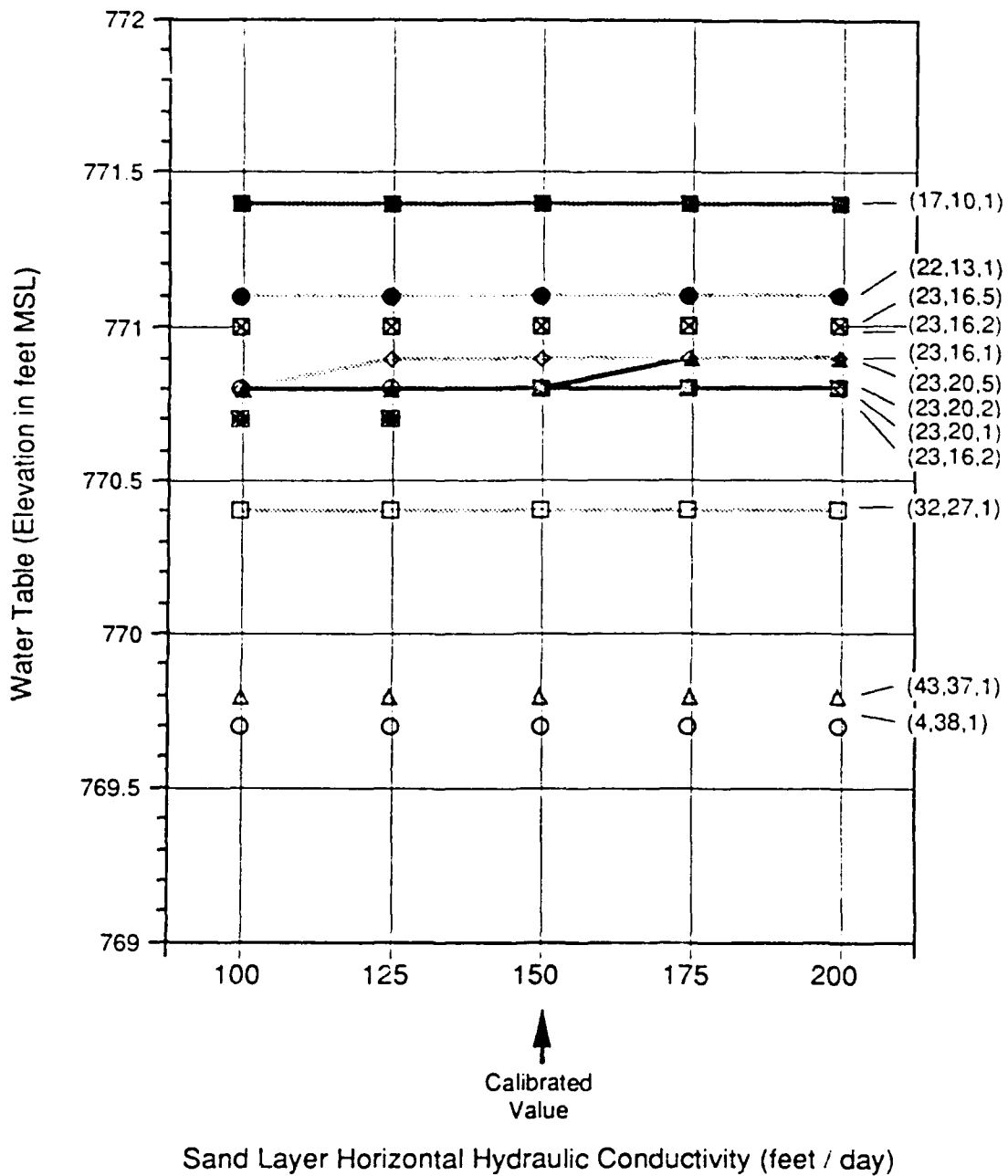
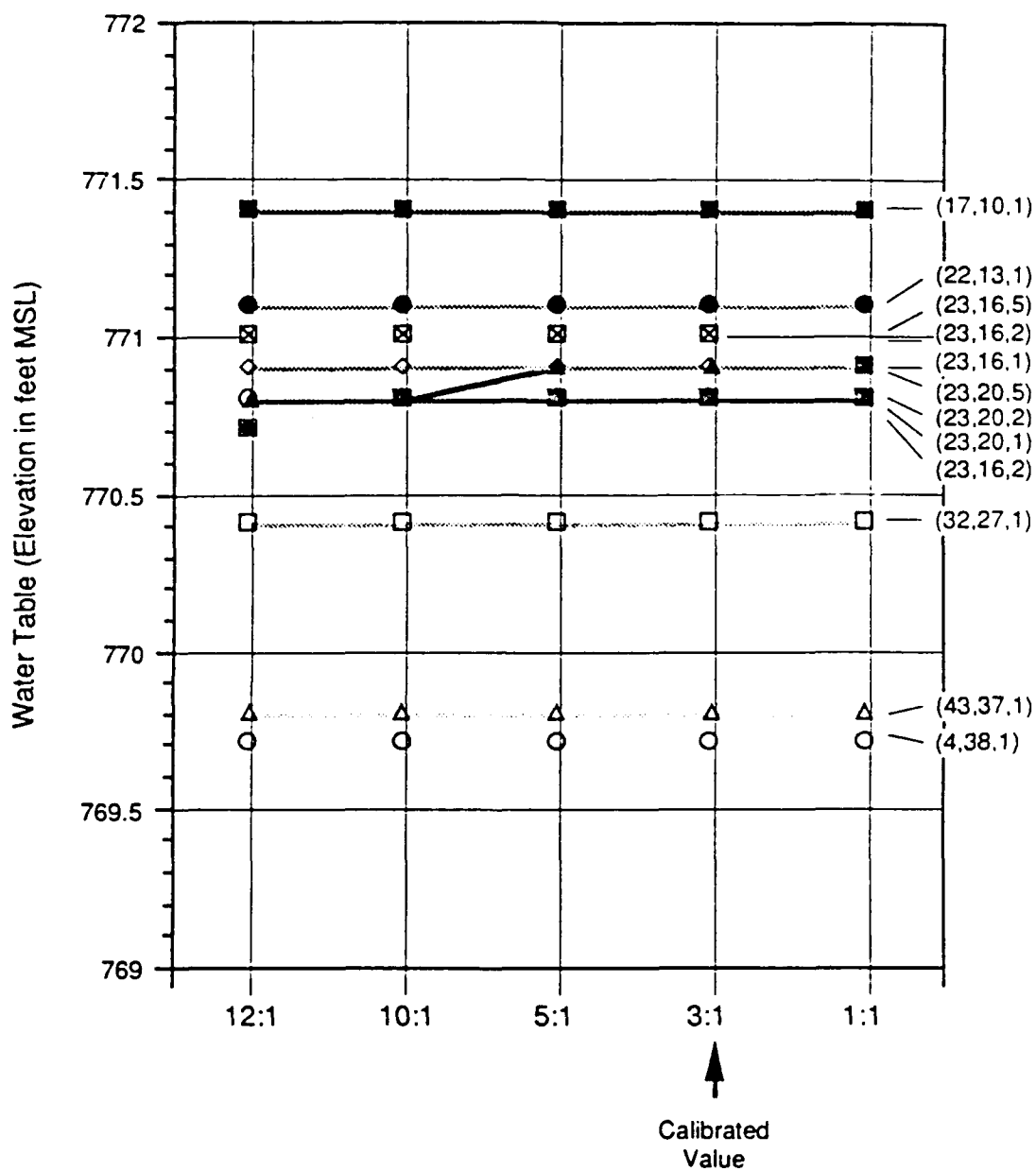


FIGURE J.3-4
HORIZONTAL K - SENSITIVITY ANALYSIS
BOX MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

— ABB Environmental Services, Inc —



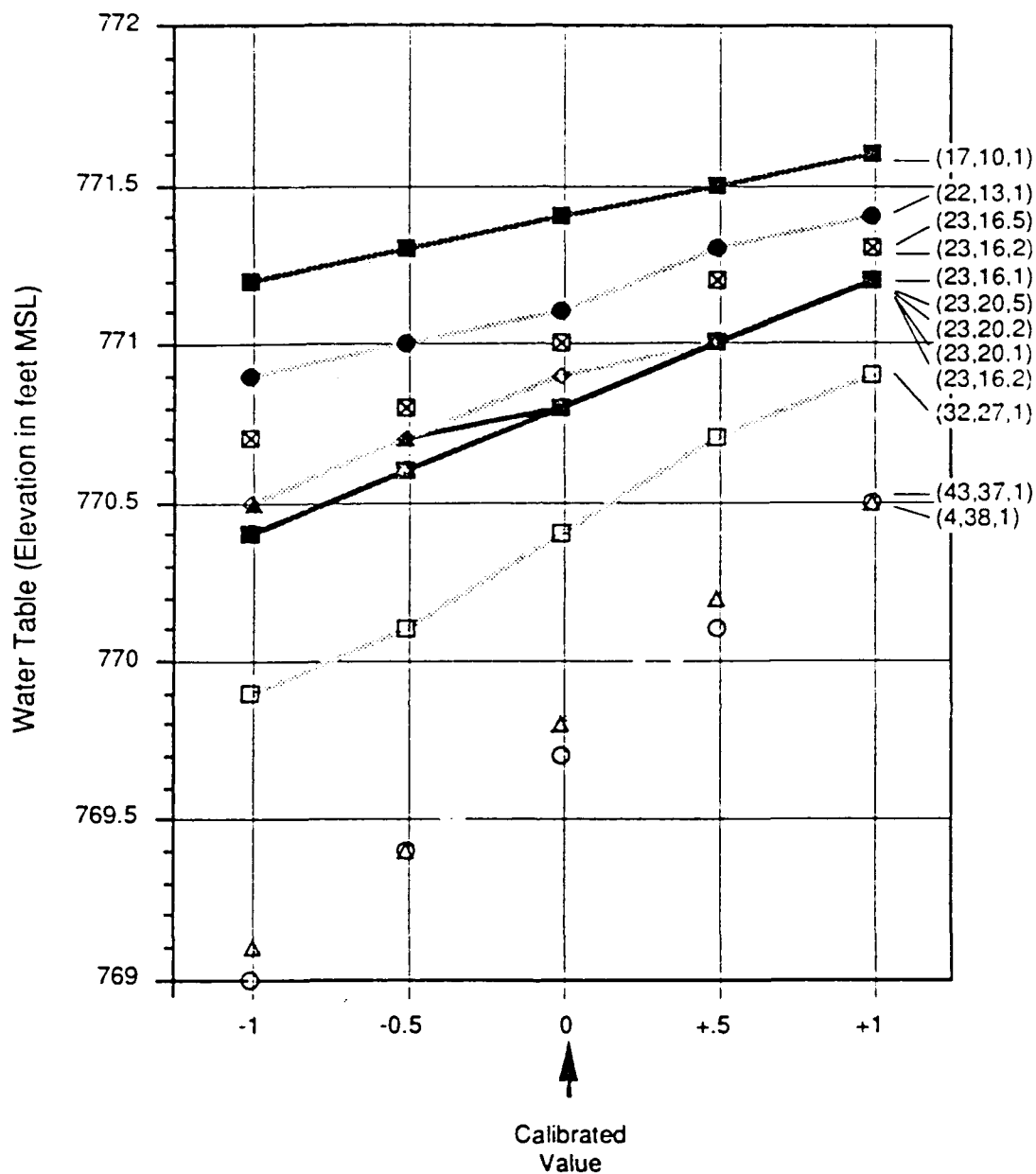
Cell Identification

Row Number
 Column Number
 Layer Number
 (75,12,5)

Note: See Figure 3-3 for Cell Location

FIGURE J.3-5
VERTICAL K - SENSITIVITY ANALYSIS
BOX MODEL
IRM EVALUATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc



Cell Identification

(75,12,5)
 — Row Number
 — Column Number
 — Layer Number

Note: See Figure J.3-3 for Cell Location

FIGURE J.3-6
 CONSTANT HEAD - SENSITIVITY ANALYSIS
 BOX MODEL
 REMEDIAL INVESTIGATION
 BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.

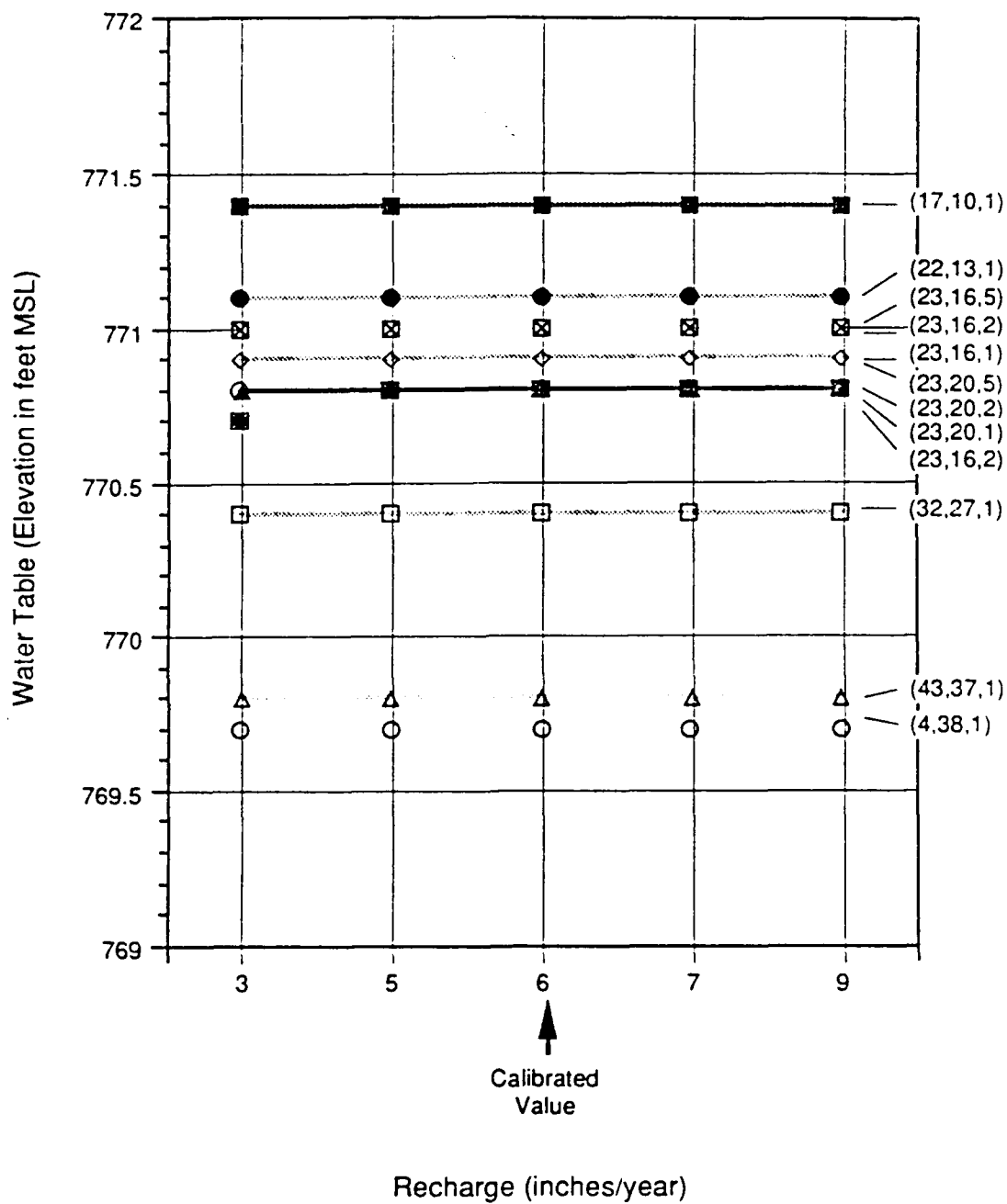


FIGURE J.3-7
RECHARGE - SENSITIVITY ANALYSIS
BOX MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABE Environmental Services, Inc.

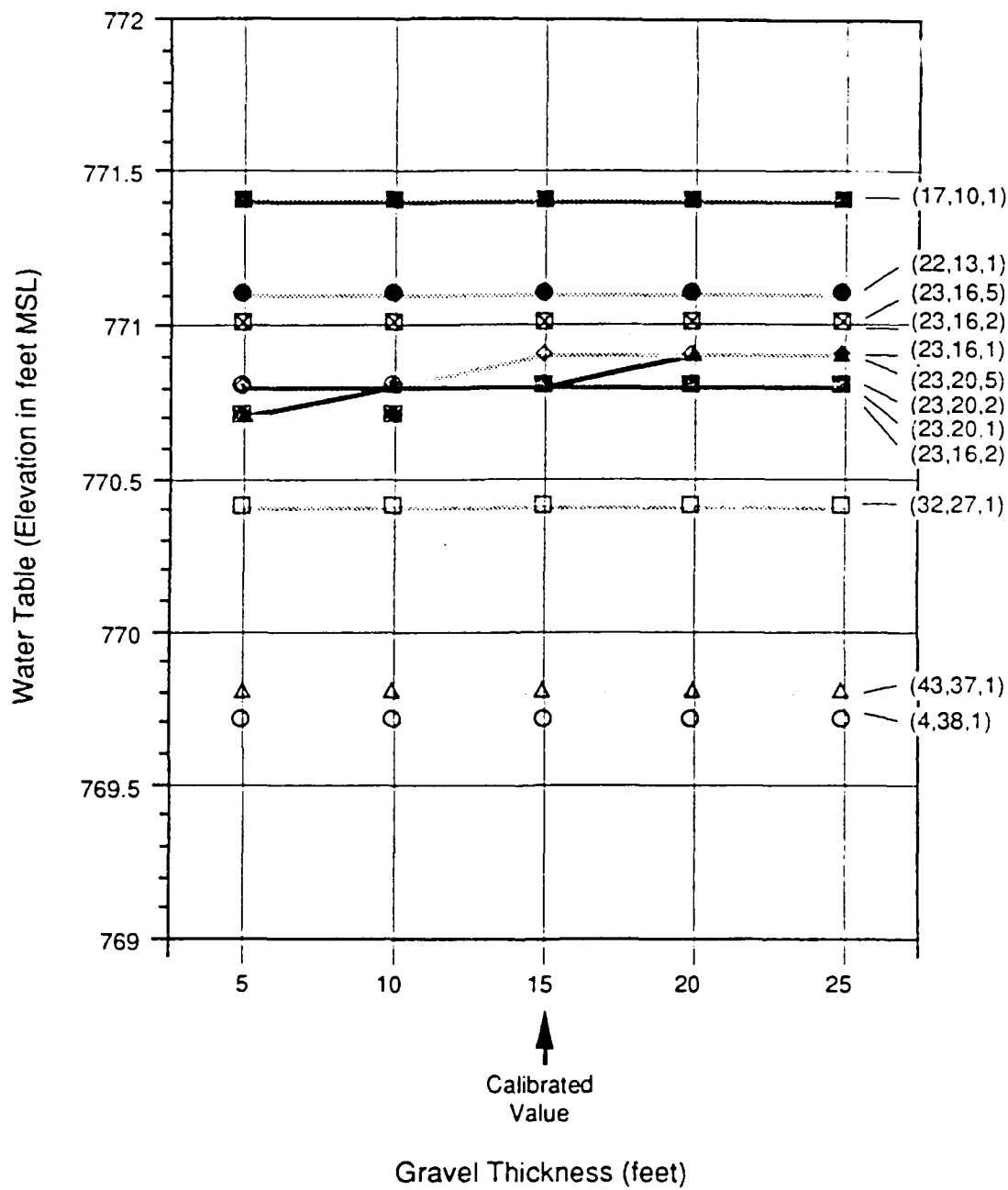
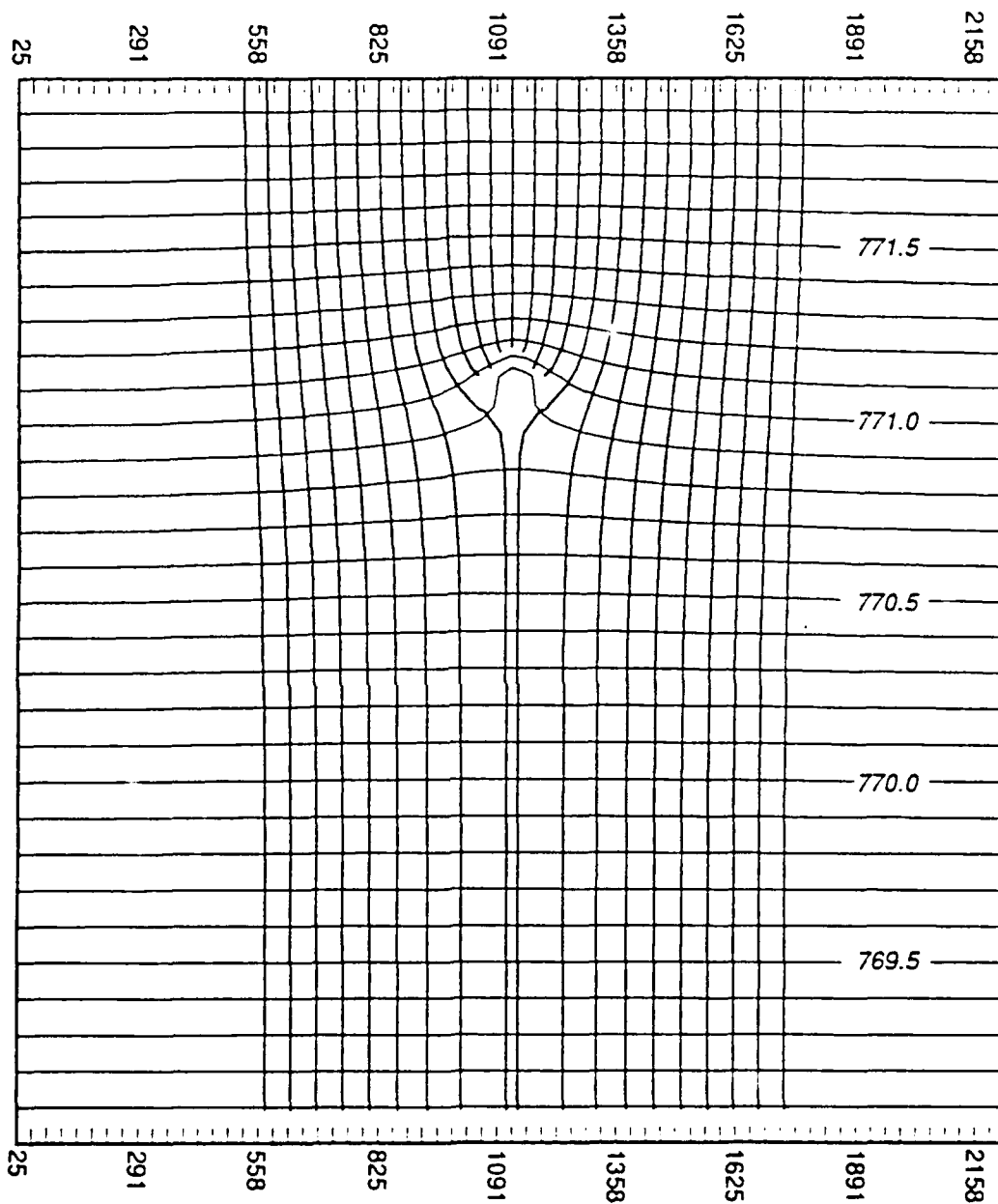


FIGURE J.3-8
GRAVEL THICKNESS - SENSITIVITY ANALYSIS
BOX MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 1 - $K = 150$ ft/day
 $Q = 100$ gpm



NOTE: ELEVATION IN FEET MSL

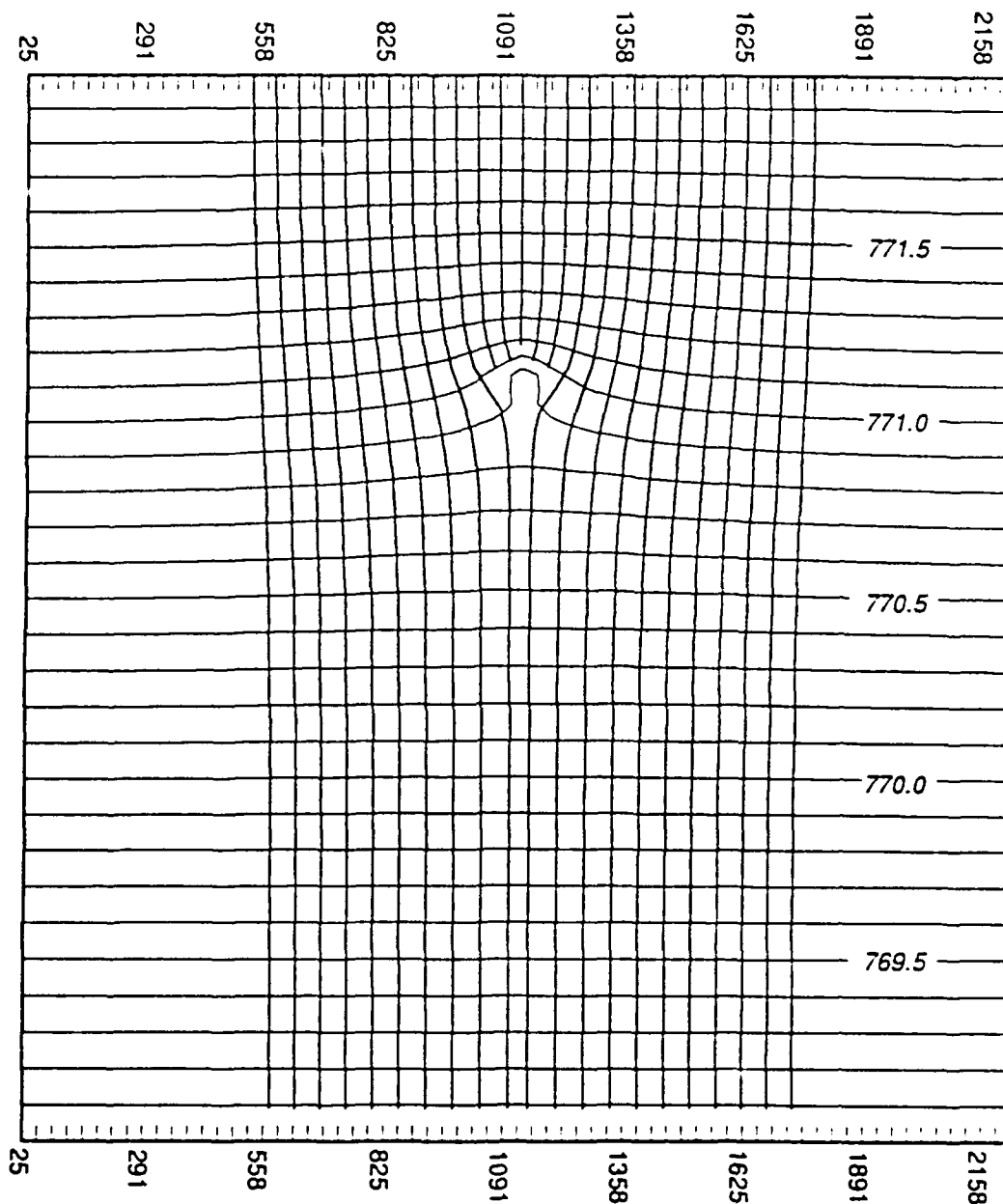


FIGURE J.3-9
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 1
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc



TEST 1 LAYER 2 - $K = 1500$ ft/day
 $Q = 100$ gpm



NOTE: ELEVATION IN FEET MSL

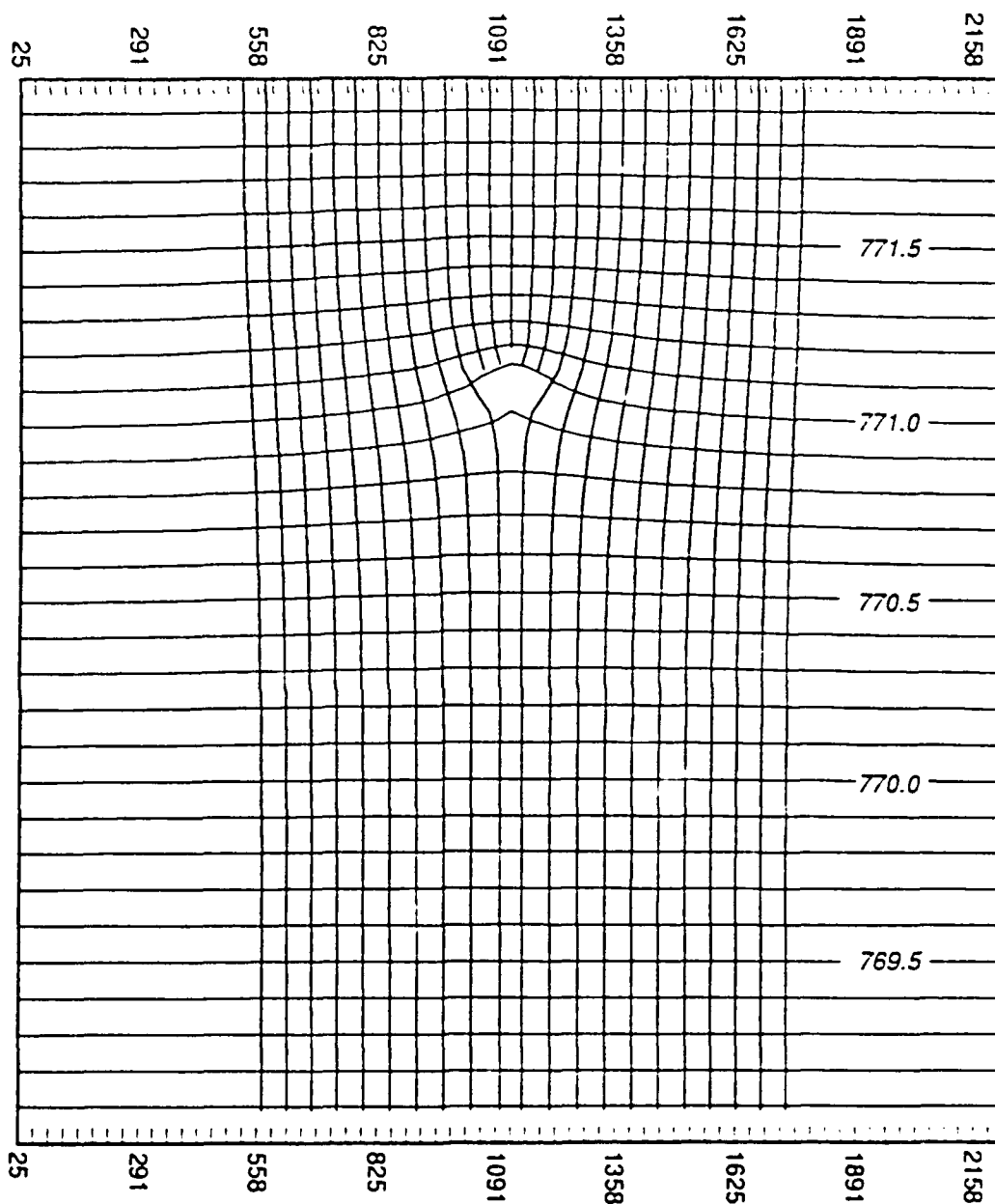


FIGURE J.3-10
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 2
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 3 - $K = 150 \text{ ft/day}$
 $Q = 100 \text{ gpm}$



NOTE: ELEVATION IN FEET MSL

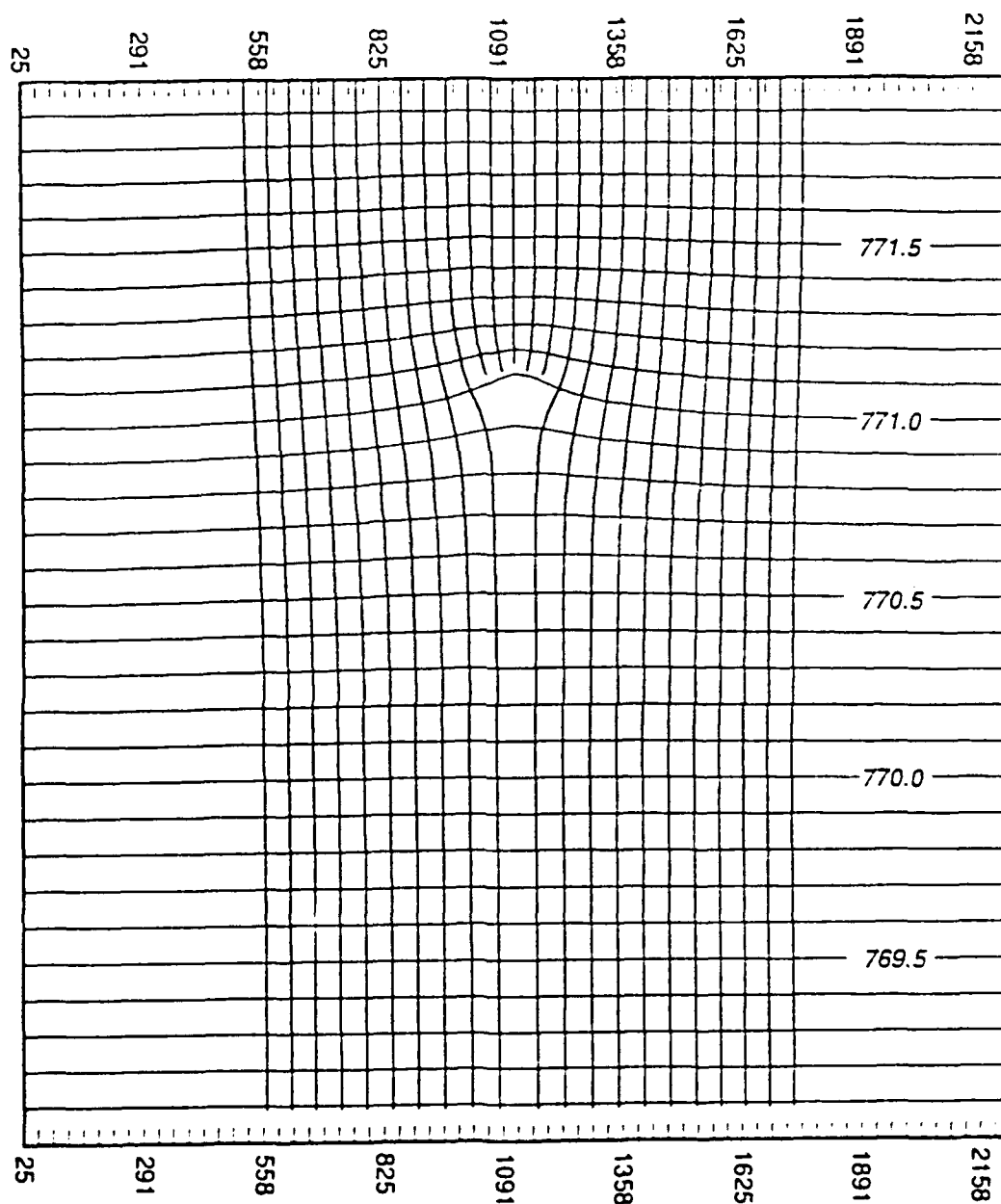


FIGURE J.3-11
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 3
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 4 - $K = 150$ ft/day
 $Q = 100$ gpm



NOTE: ELEVATION IN FEET MSL

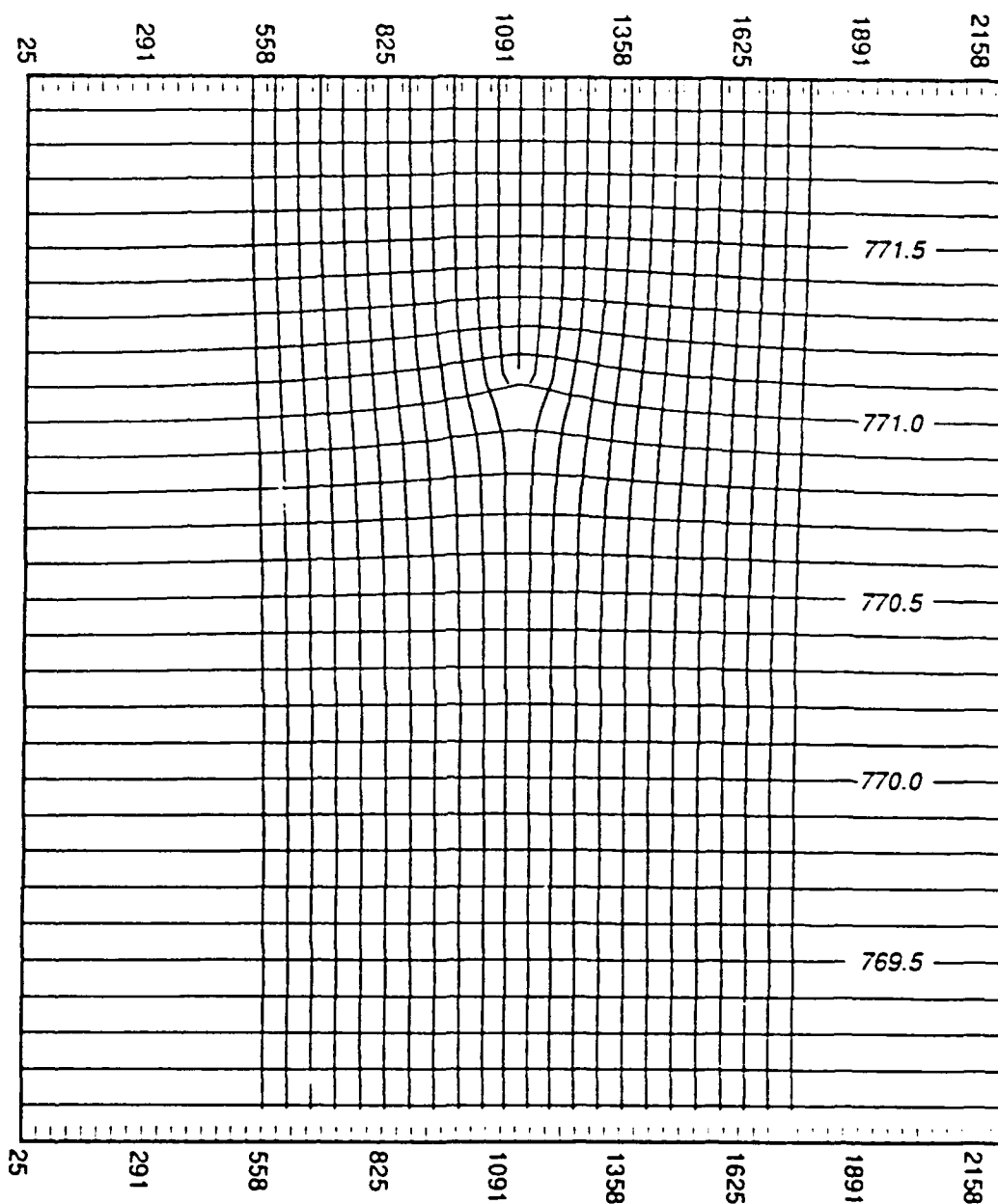


FIGURE J.3-12
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 4
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 5 - $K = 150 \text{ ft/day}$
 $Q = 100 \text{ gpm}$



NOTE: ELEVATION IN FEET MSL

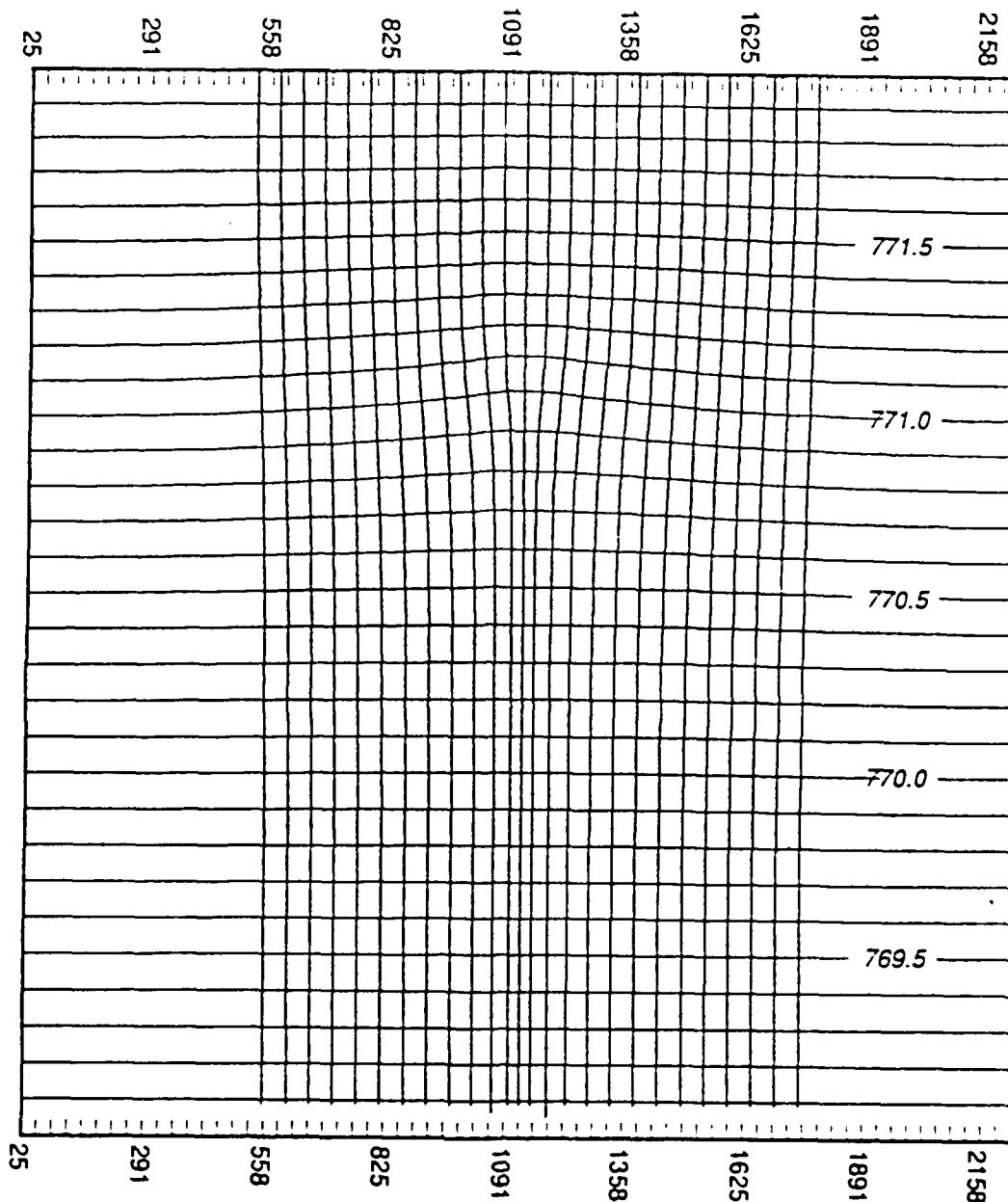


FIGURE J.3-13
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 5
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 6 - $K = 150$ ft/day
 $Q = 100$ gpm



NOTE: ELEVATION IN FEET MSL

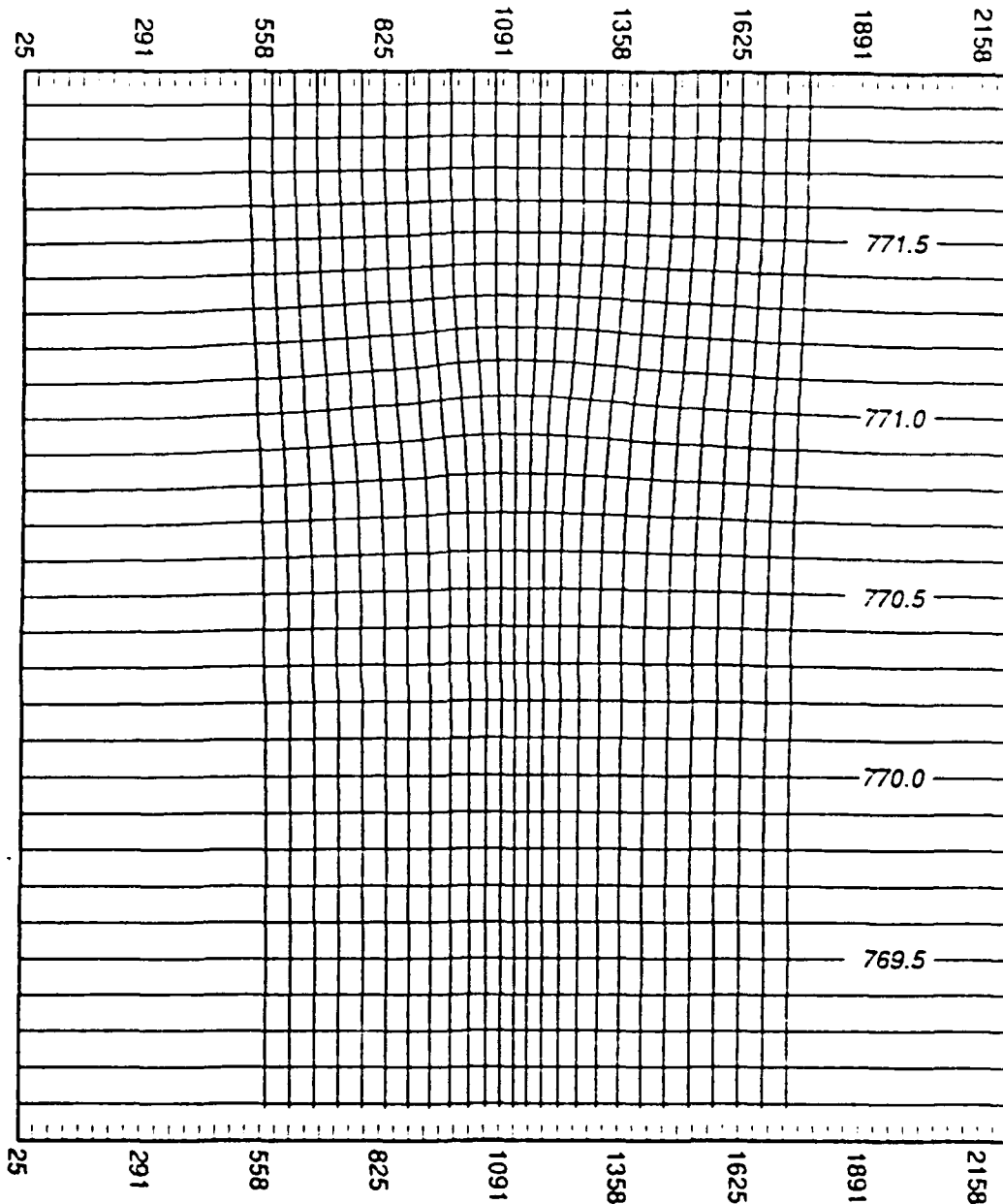


FIGURE J.3-14
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 6
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 7 - $K = 1500 \text{ ft/day}$
 $Q = 100 \text{ gpm}$



NOTE: ELEVATION IN FEET MSL



FIGURE J.3-15
CONTOUR INTERVALS AND PARTICLE TRACKING
FOR BOX MODEL FOR LAYER 7
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.

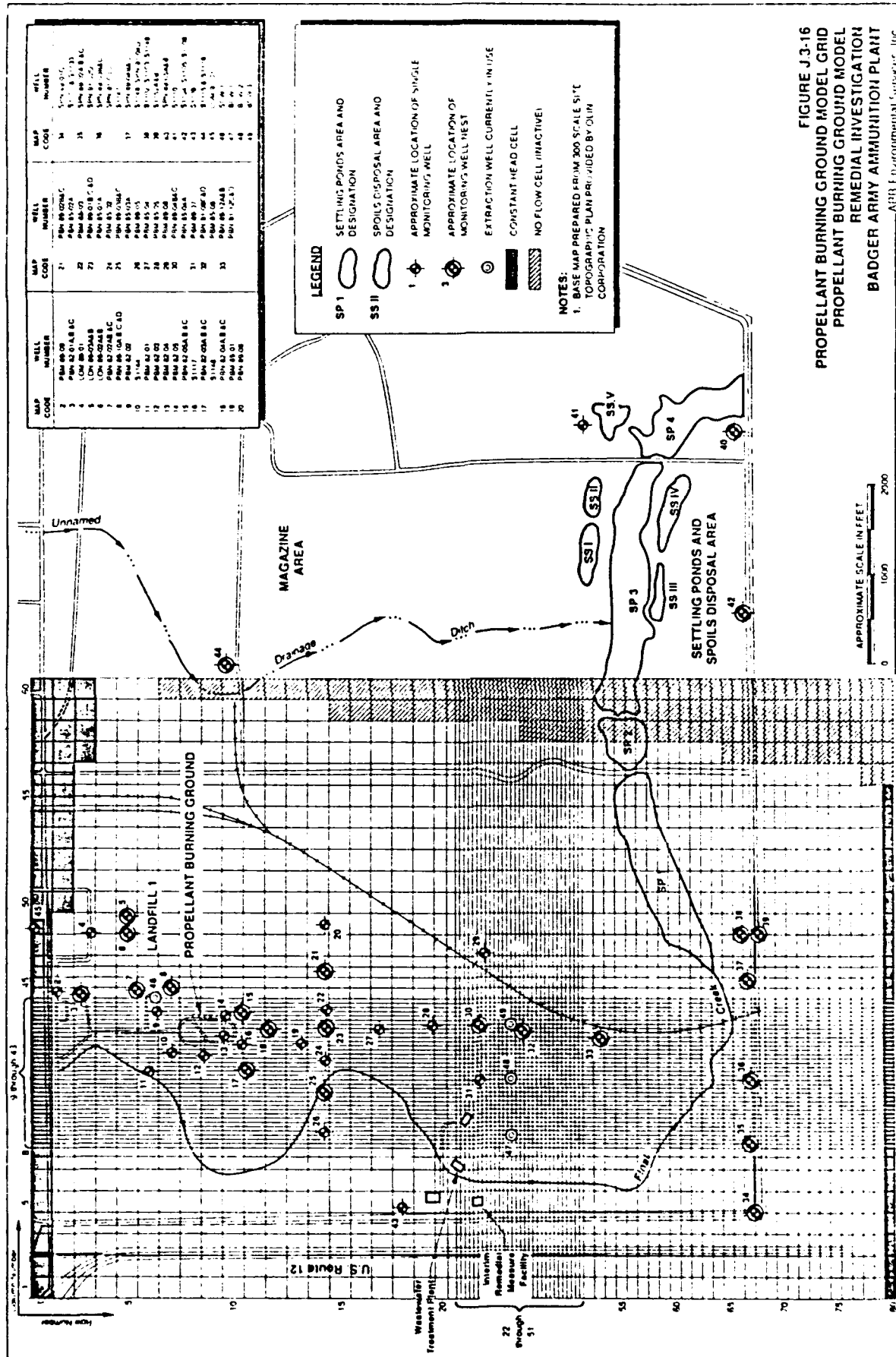
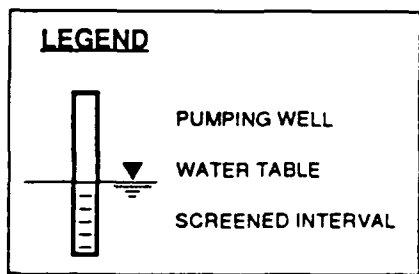
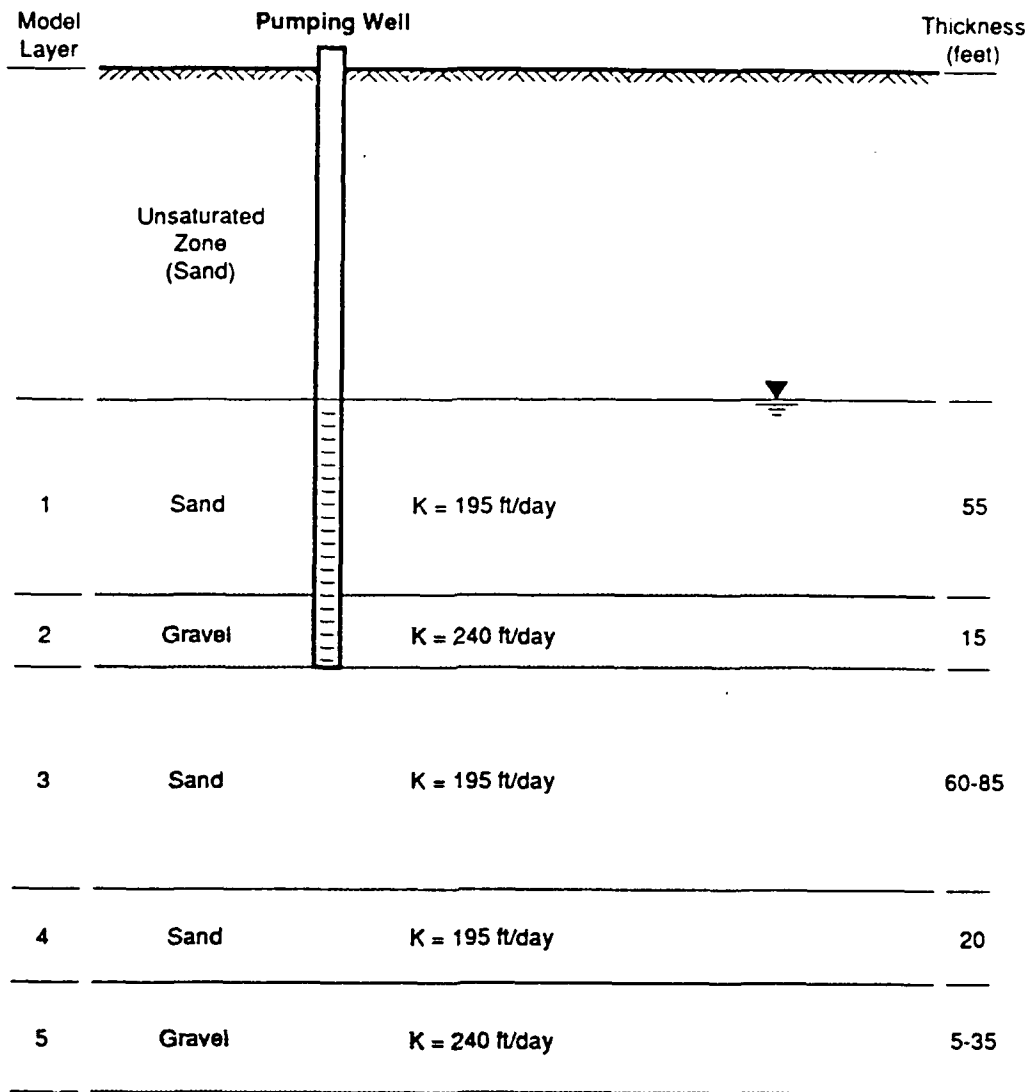


FIGURE J-3-16
 PROPELLANT BURNING GROUND MODEL GRID
 PROPELLANT BURNING GROUND MODEL
 REMEDIAL INVESTIGATION
 BADGER ARMY AMMUNITION PLANT

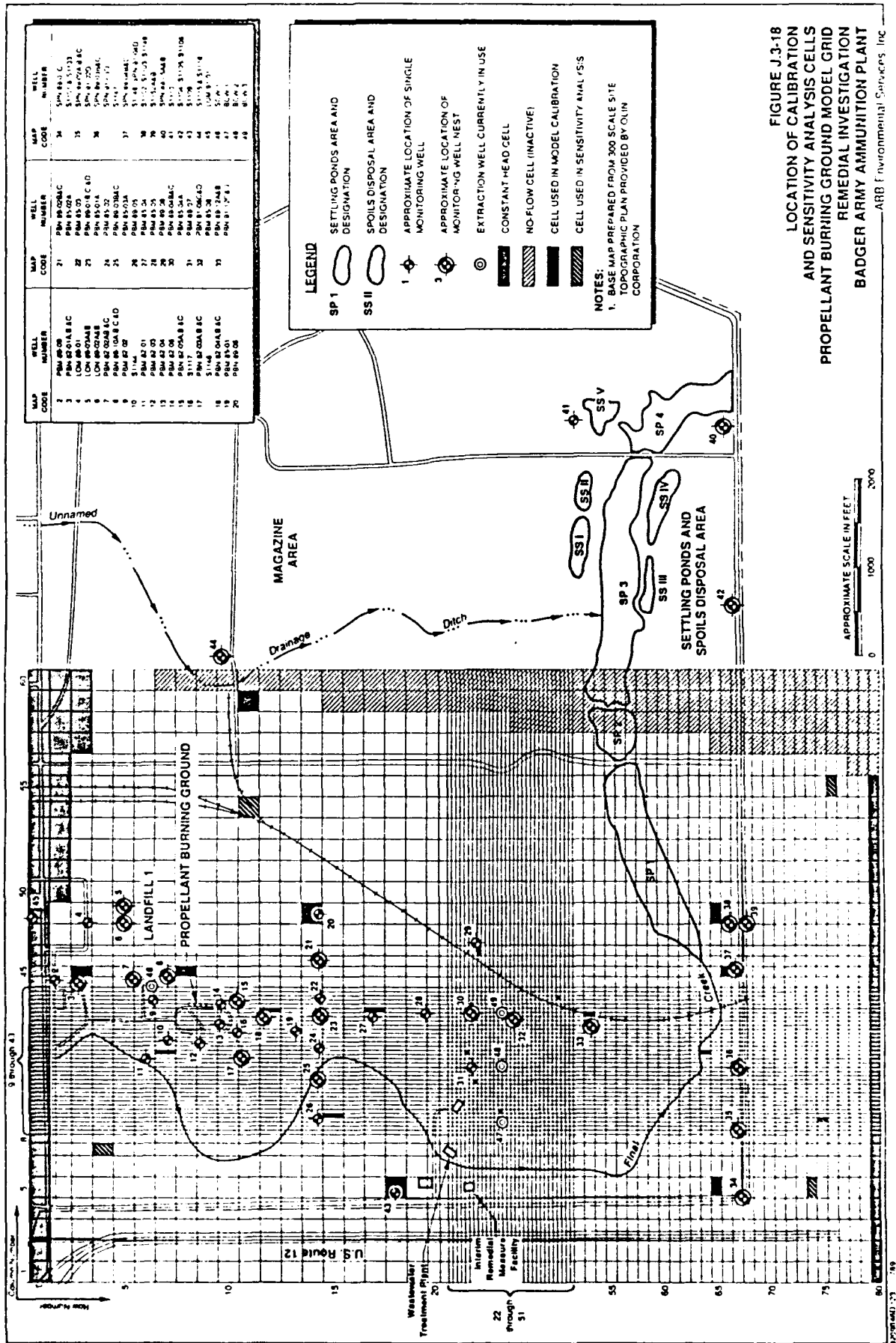
APB Environmental Services, Inc.

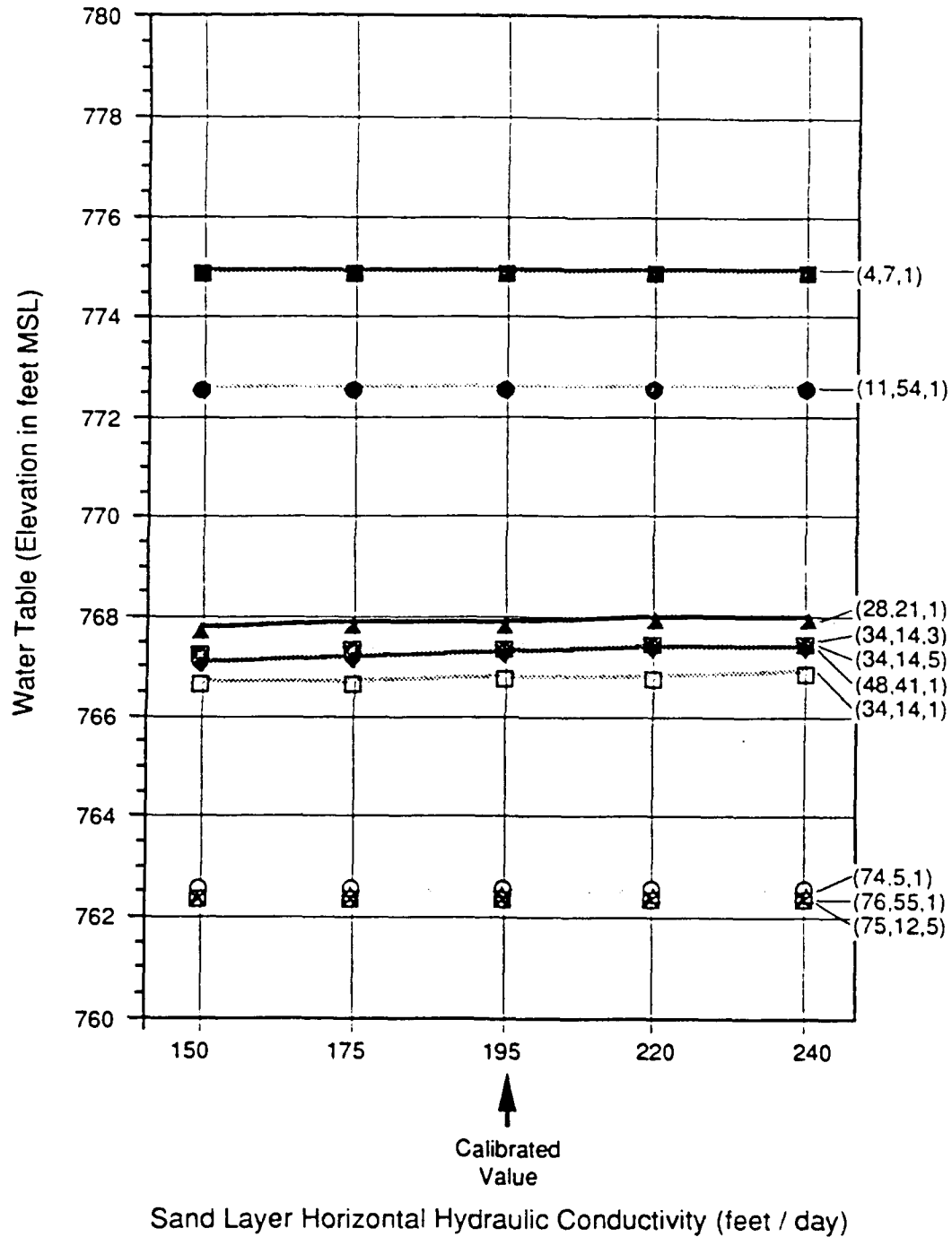


NOT TO SCALE

FIGURE J.3-17
MODEL LAYERS
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.





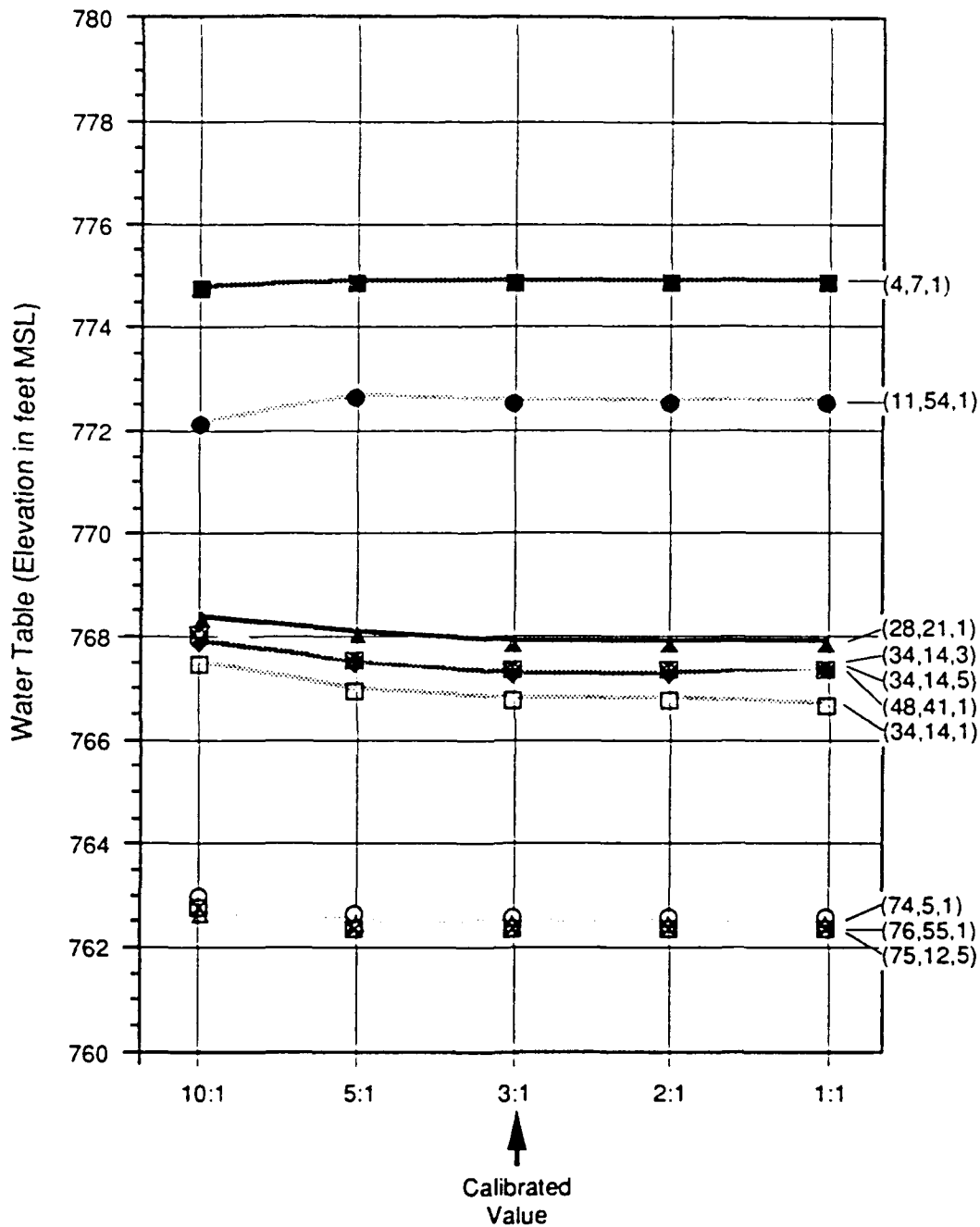
Cell Identification

— Row Number
 — Column Number
 (75,12,5)
 — Layer Number

Note: See Figure J.3-18 for Cell Location

FIGURE J.3-20
HORIZONTAL K - SENSITIVITY ANALYSIS
PROPELLANT BURNING GROUND MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



Cell Identification

— Row Number
 — Column Number
 (75,12,5)
 — Layer Number

Note: See Figure J.3-18 for Cell Location

FIGURE J.3-21
VERTICAL K - SENSITIVITY ANALYSIS
PROPELLANT BURNING GROUND MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.

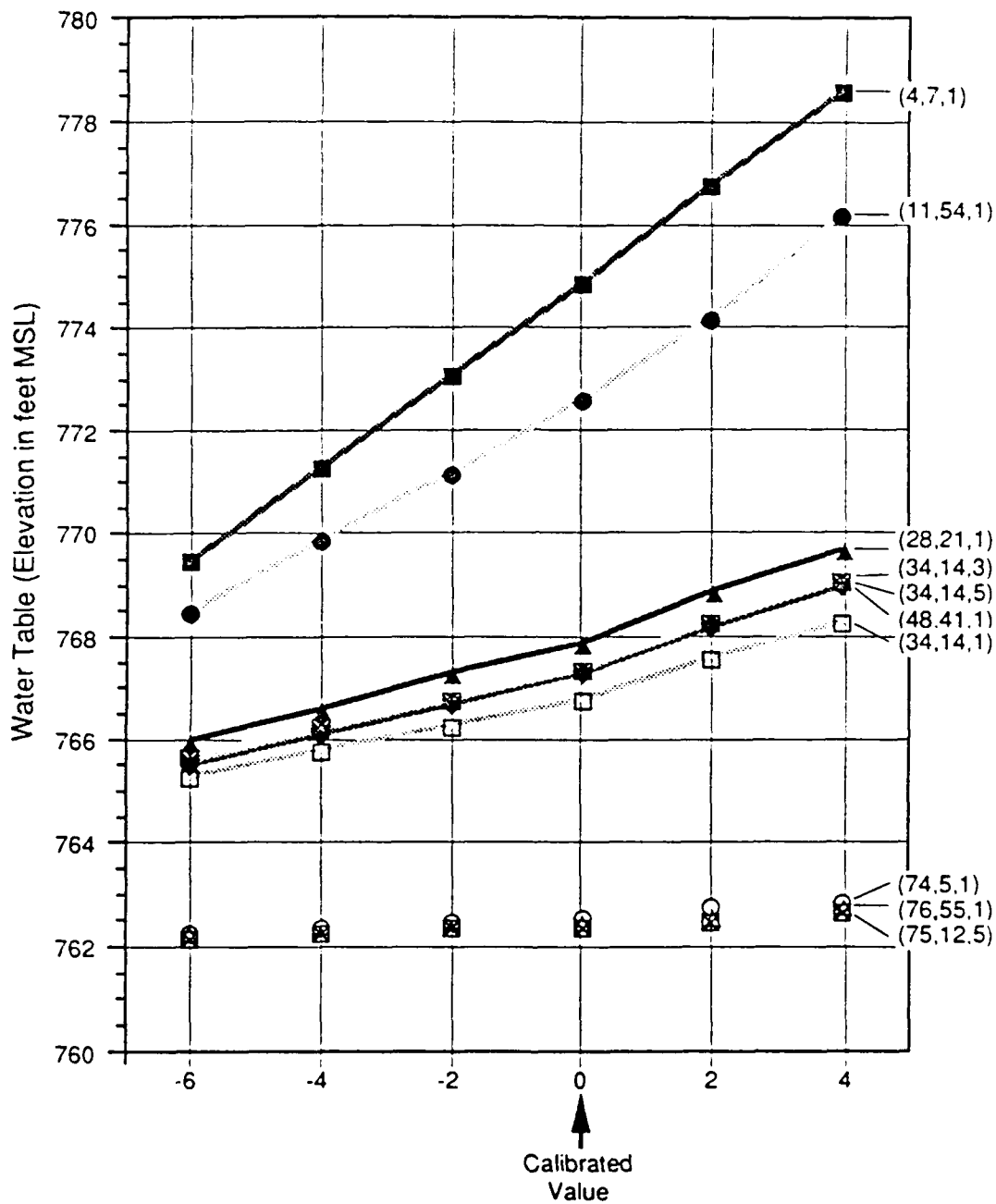
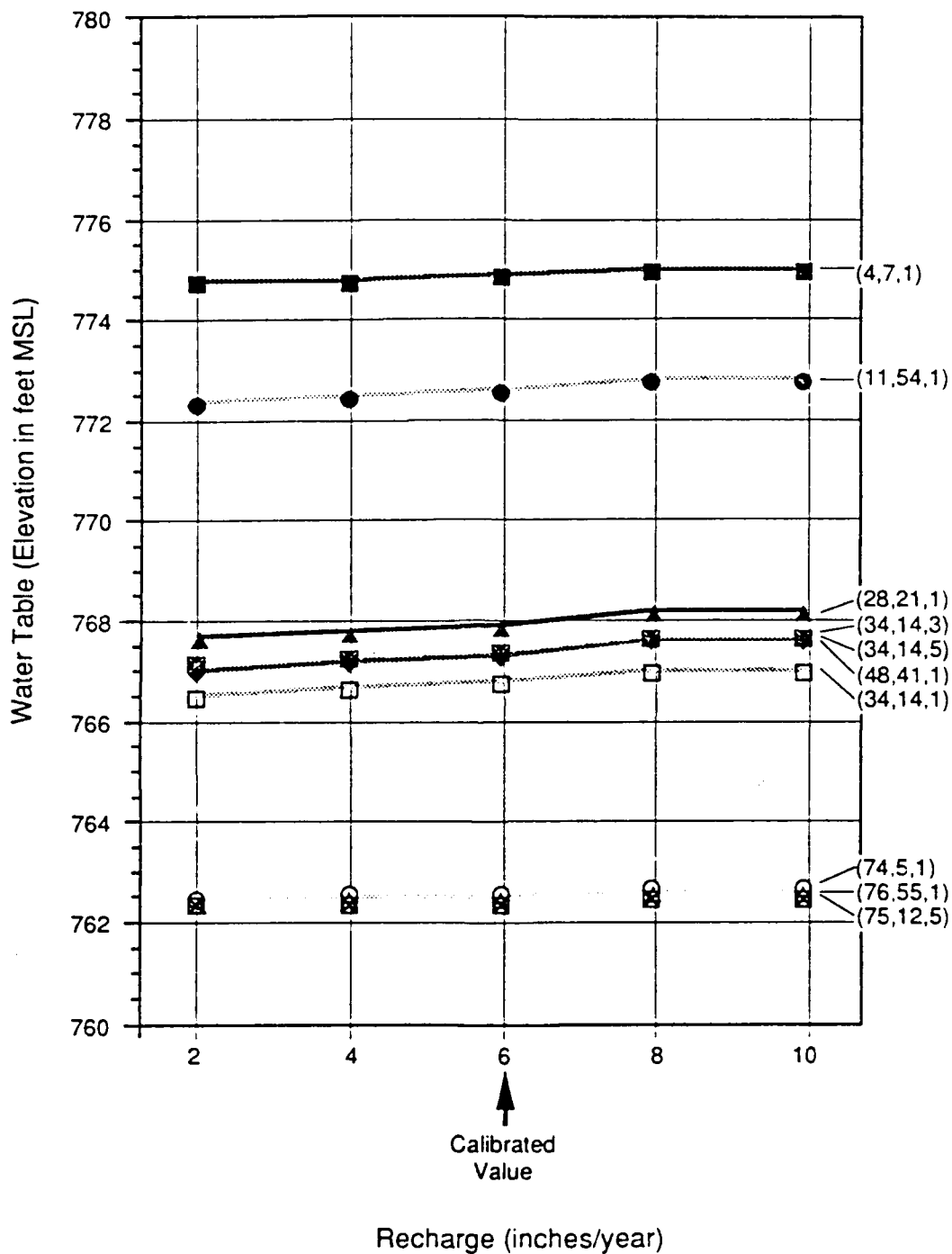


FIGURE J.3-22
CONSTANT HEAD - SENSITIVITY ANALYSIS
PROPELLANT BURNING GROUND MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



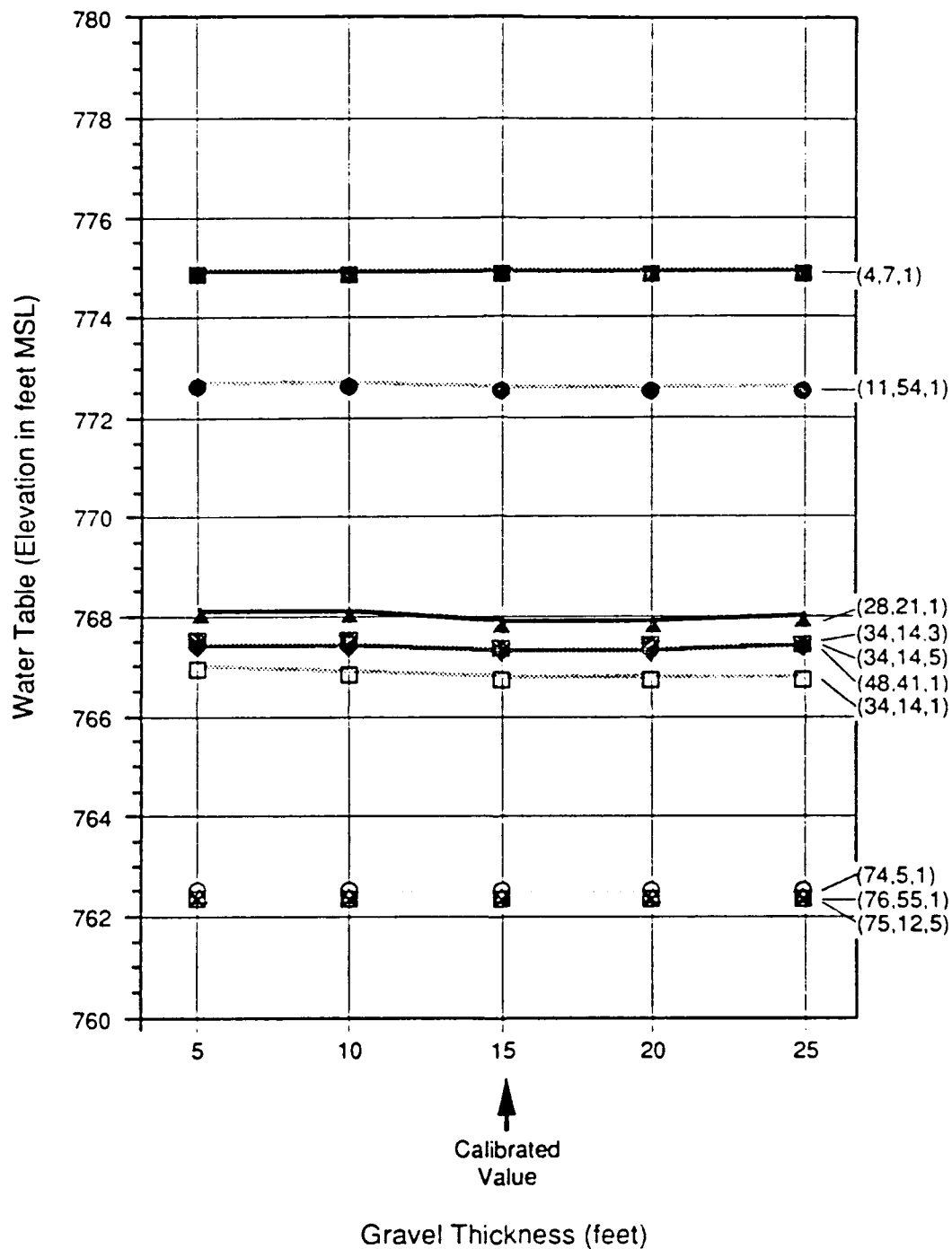
Cell Identification

(75,12,5)
 — Row Number
 — Column Number
 — Layer Number

Note: See Figure J.3-18 for Cell Location

FIGURE J.3-23
RECHARGE - SENSITIVITY ANALYSIS
PROPELLANT BURNING GROUND MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



Cell Identification

Row Number
 Column Number
 Layer Number

(75,12,5)

Note: See Figure J.3-18 for Cell Location

FIGURE J.3-24
GRAVEL THICKNESS - SENSITIVITY ANALYSIS
PROPELLANT BURNING GROUND MODEL
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.

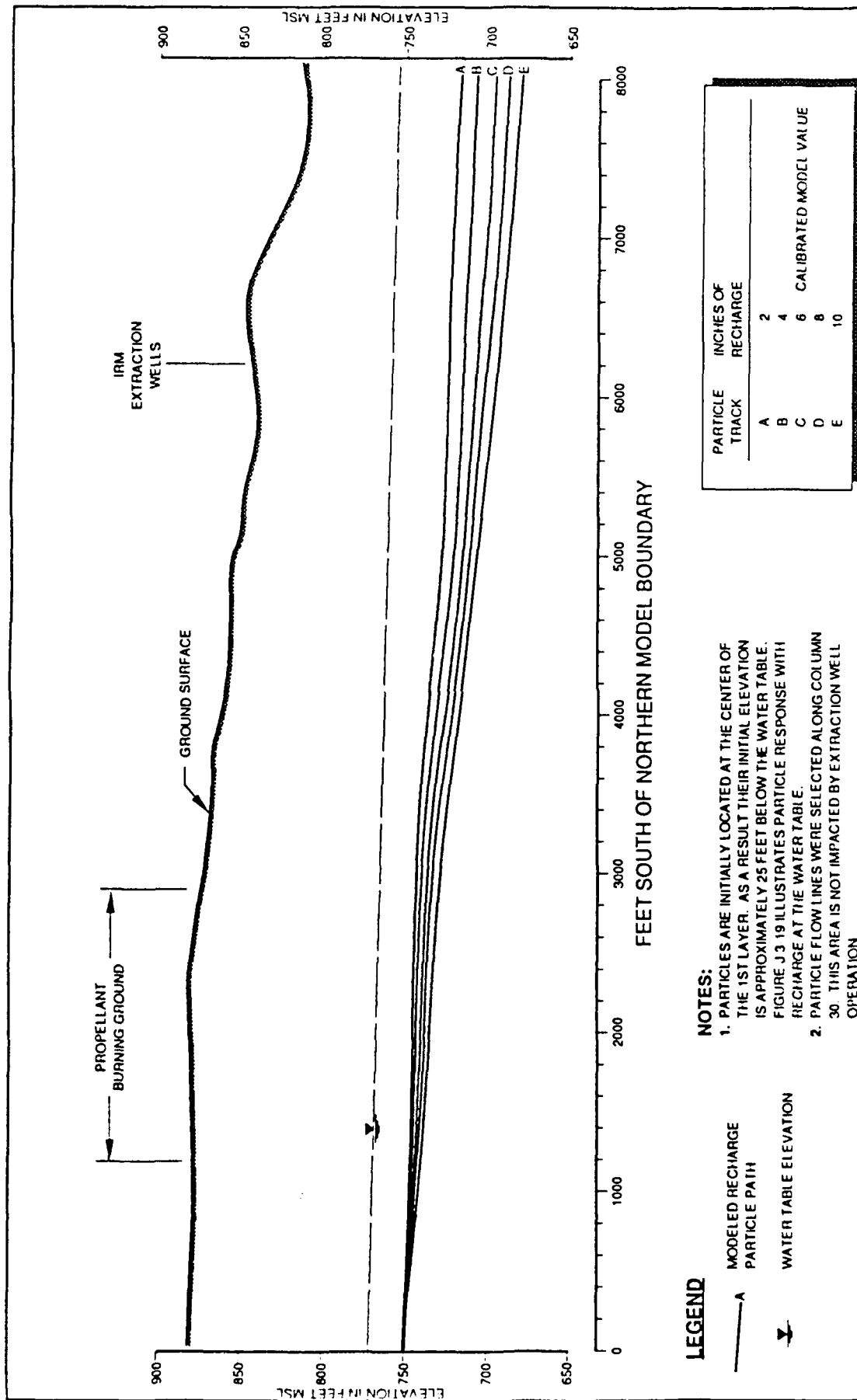
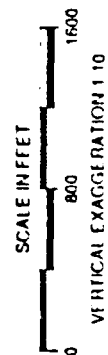


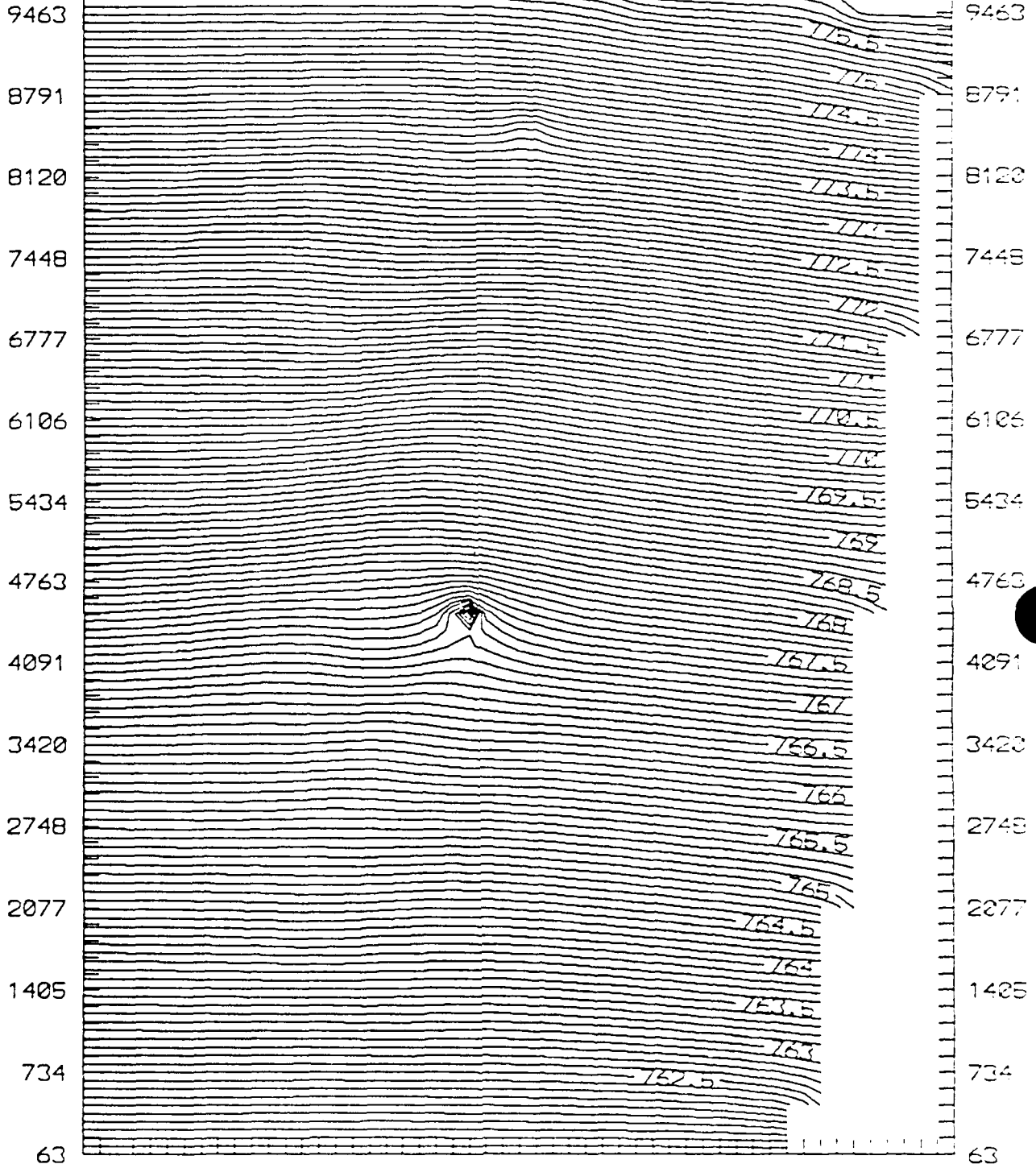
FIGURE J.3-25
RECHARGE/PARTICLE DEPTH CROSS SECTION
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



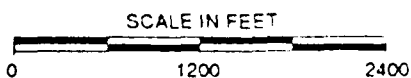


TEST 4 LAYER 1 - K = 195 ft/day
Q = 200 gpm



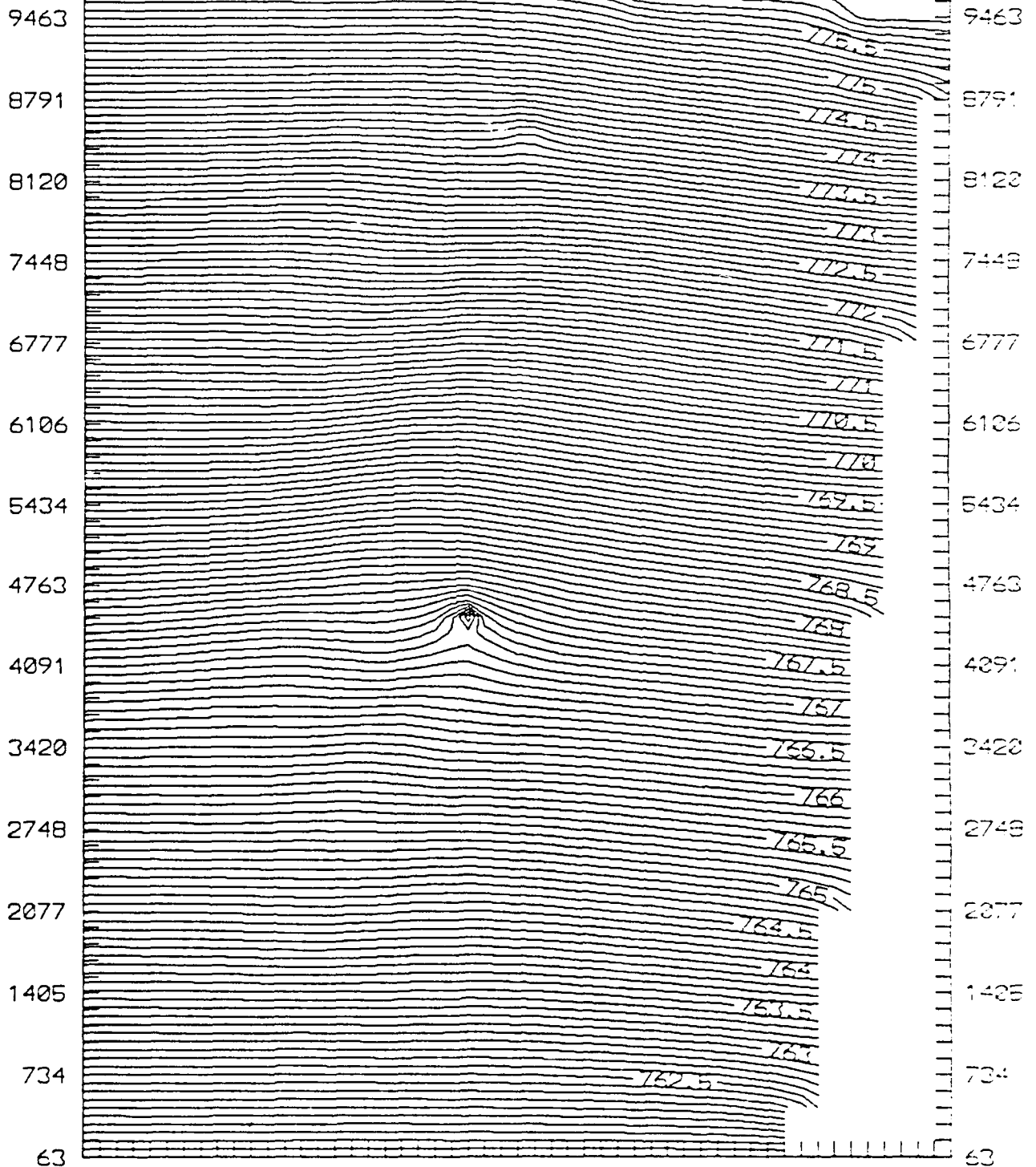
NOTE: ELEVATION IN FEET MSL.

FIGURE J.3-26
CONTOUR INTERVALS FOR AQUIFER TEST SIMULATION FOR LAYER 1
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT
ABB Environmental Services, Inc.





TEST 4 LAYER 2 - K = 240 ft/day
Q = 200 gpm



NOTE: ELEVATION IN FEET MSL

FIGURE J.3-27
CONTOUR INTERVALS FOR AQUIFER TEST SIMULATION FOR LAYER 2
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

SCALE IN FEET
0 1200 2400

ABB Environmental Services, Inc.



TEST 4 LAYER 3 - K = 195 ft/day
Q = 200 gpm

9463

8791

8120

7448

6777

6106

5434

4763

4091

3420

2748

2077

1405

734

63

9463

8791

8120

7448

6777

6106

5434

4763

4091

3420

2748

2077

1405

734

63

NOTE: ELEVATION IN FEET MSL.

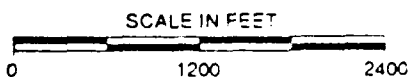
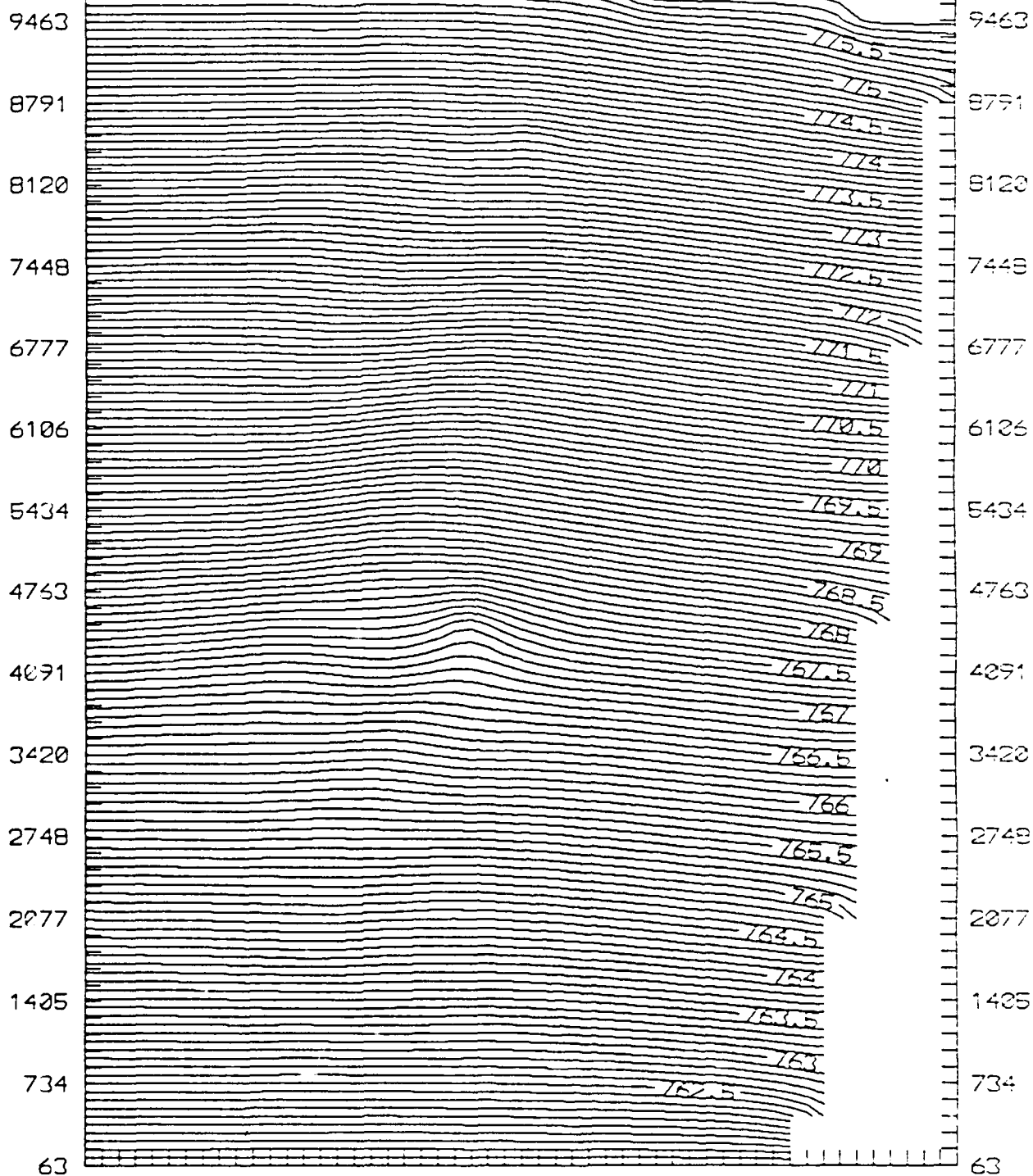


FIGURE J.3-28
CONTOUR INTERVALS FOR AQUIFER TEST SIMULATION FOR LAYER 3
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 4 LAYER 4 - K = 195 ft/day
Q = 200 gpm



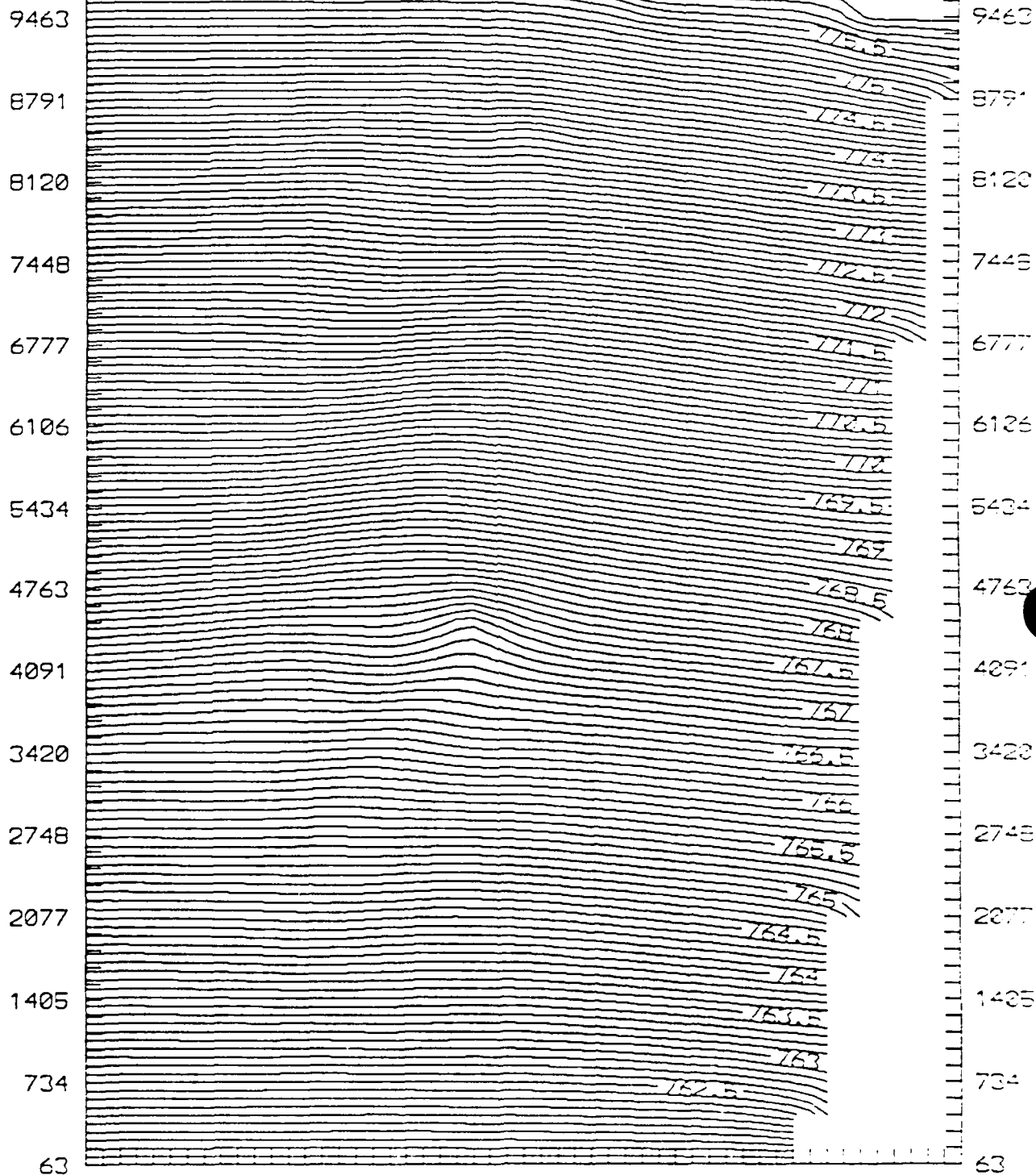
NOTE: ELEVATION IN FEET MSL.

SCALE IN FEET
0 1200 2400

FIGURE J.3-29
CONTOUR INTERVALS FOR AQUIFER TEST SIMULATION FOR LAYER 4
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT
ABB Environmental Services, Inc.



TEST 4 LAYER 5 - K = 240 ft/day
Q = 200 gpm



NOTE: ELEVATION IN FEET MSL

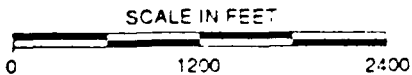
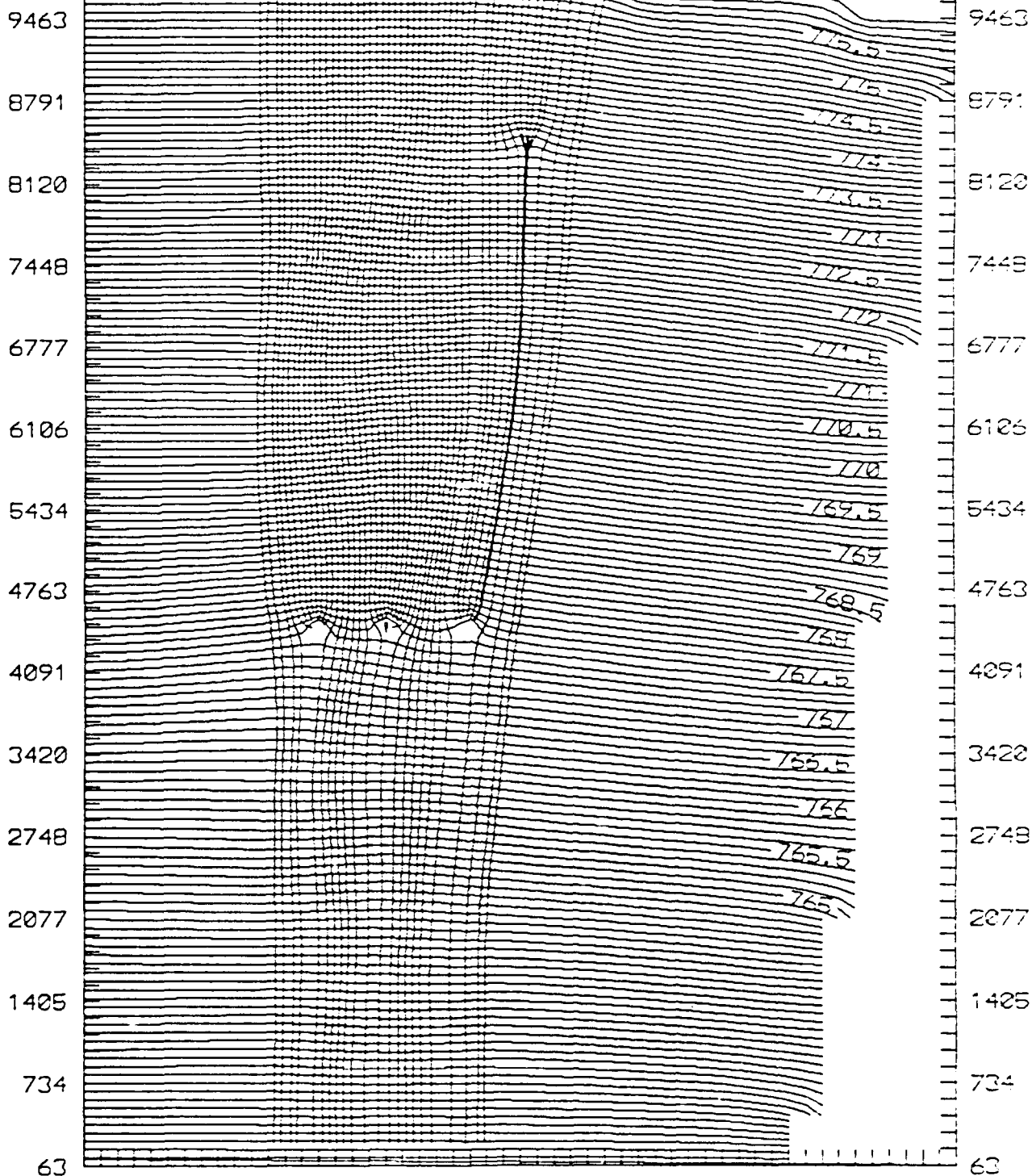


FIGURE J.3-30
CONTOUR INTERVALS FOR AQUIFER TEST SIMULATION FOR LAYER 5
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 1 - K = 195 ft/day
Q = 60 gpm



NOTE: ELEVATION IN FEET MSL

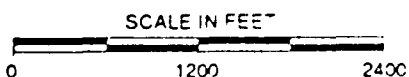
CONTOUR INTERVALS AND PARTICLE TRACKING FOR IRM MODEL FOR LAYER 1

PROPELLANT BURNING GROUND

REMEDIAL INVESTIGATION

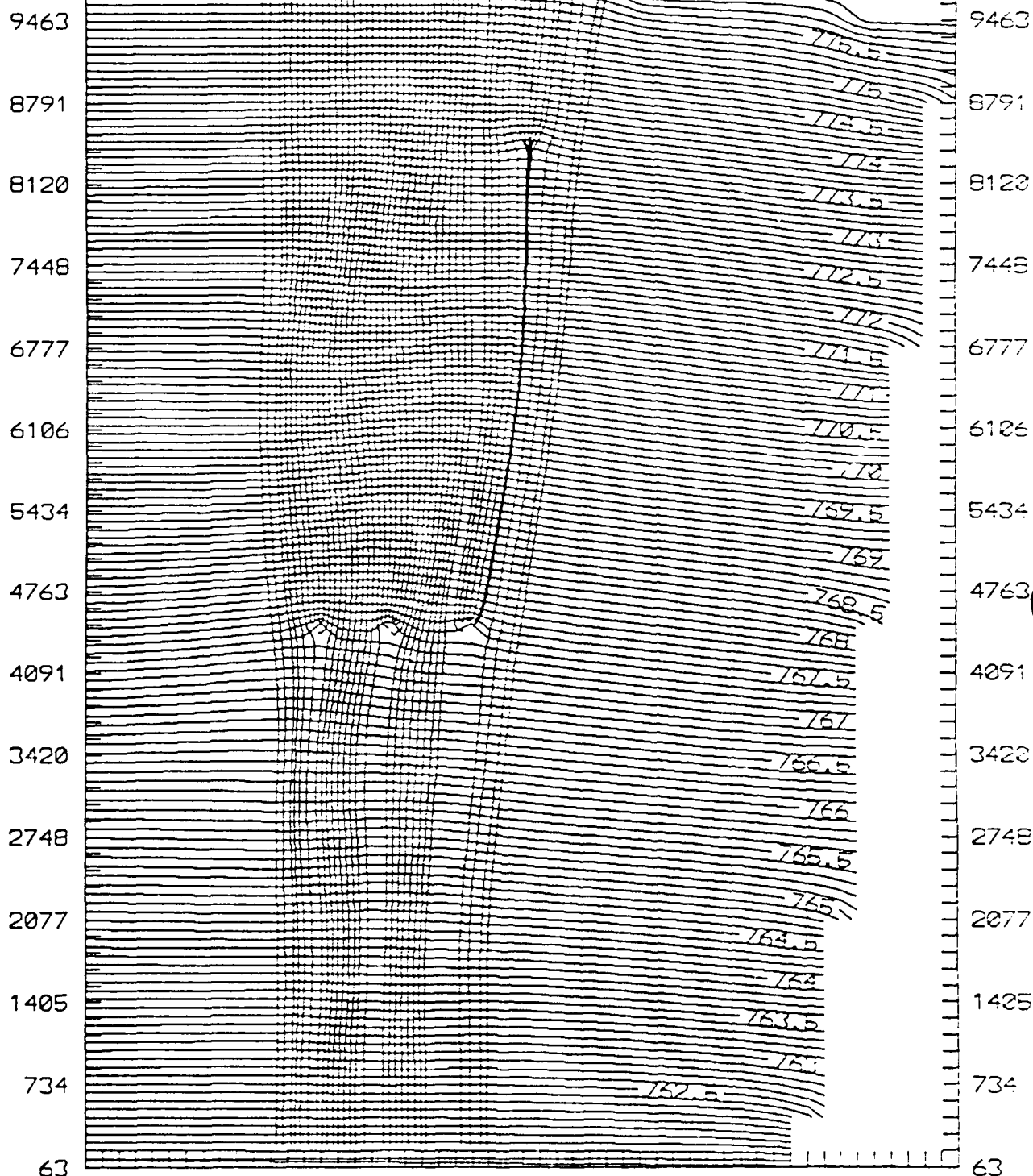
BADGER ARMY AMMUNITION PLANT

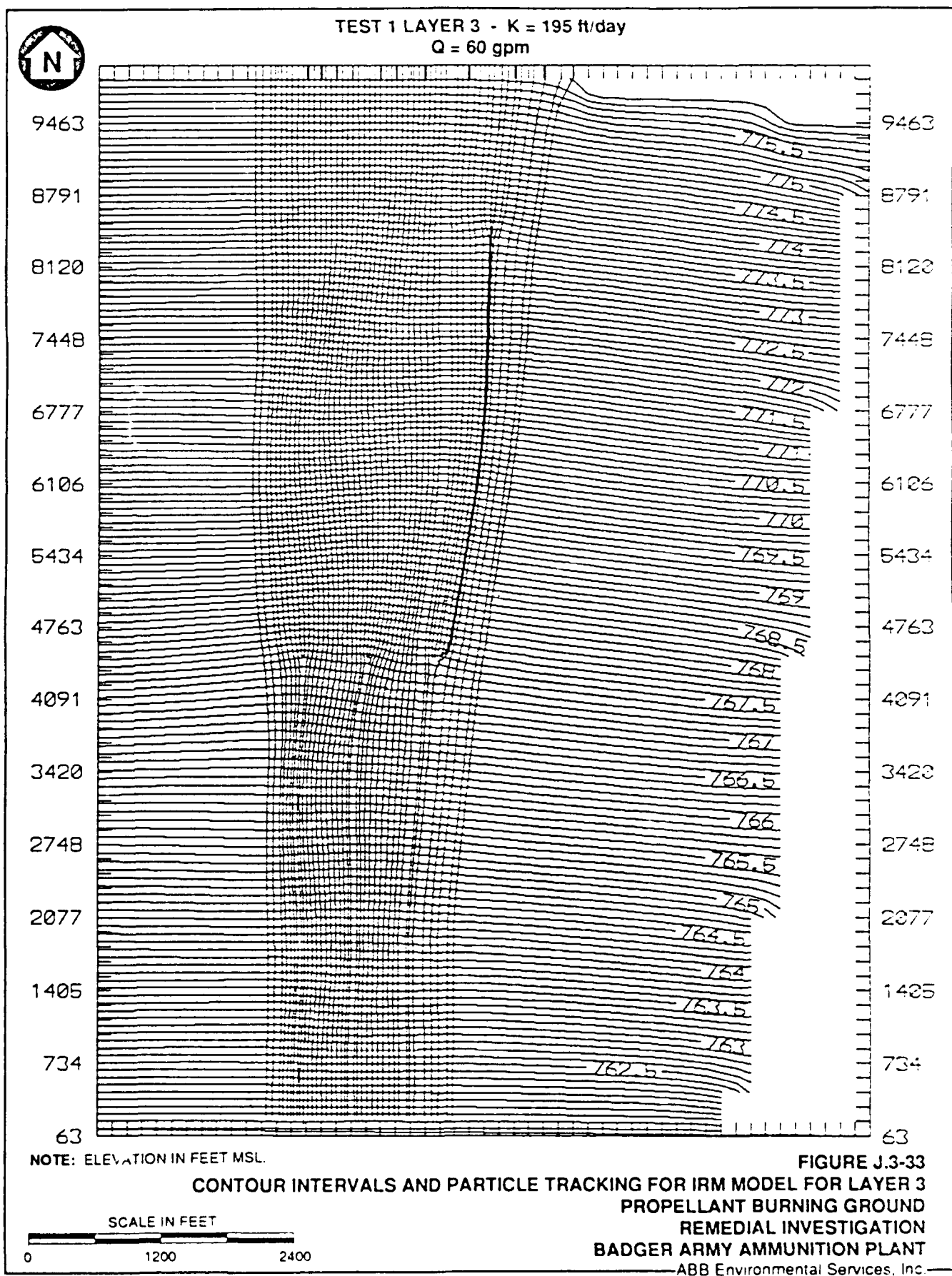
ABB Environmental Services, Inc.





TEST 1 LAYER 2 - K = 240 ft/day
Q = 60 gpm







TEST 1 LAYER 4 - K = 195 ft/day
Q = 60 gpm

9463

8791

8120

7448

6777

6106

5434

4763

4091

3420

2748

2077

1405

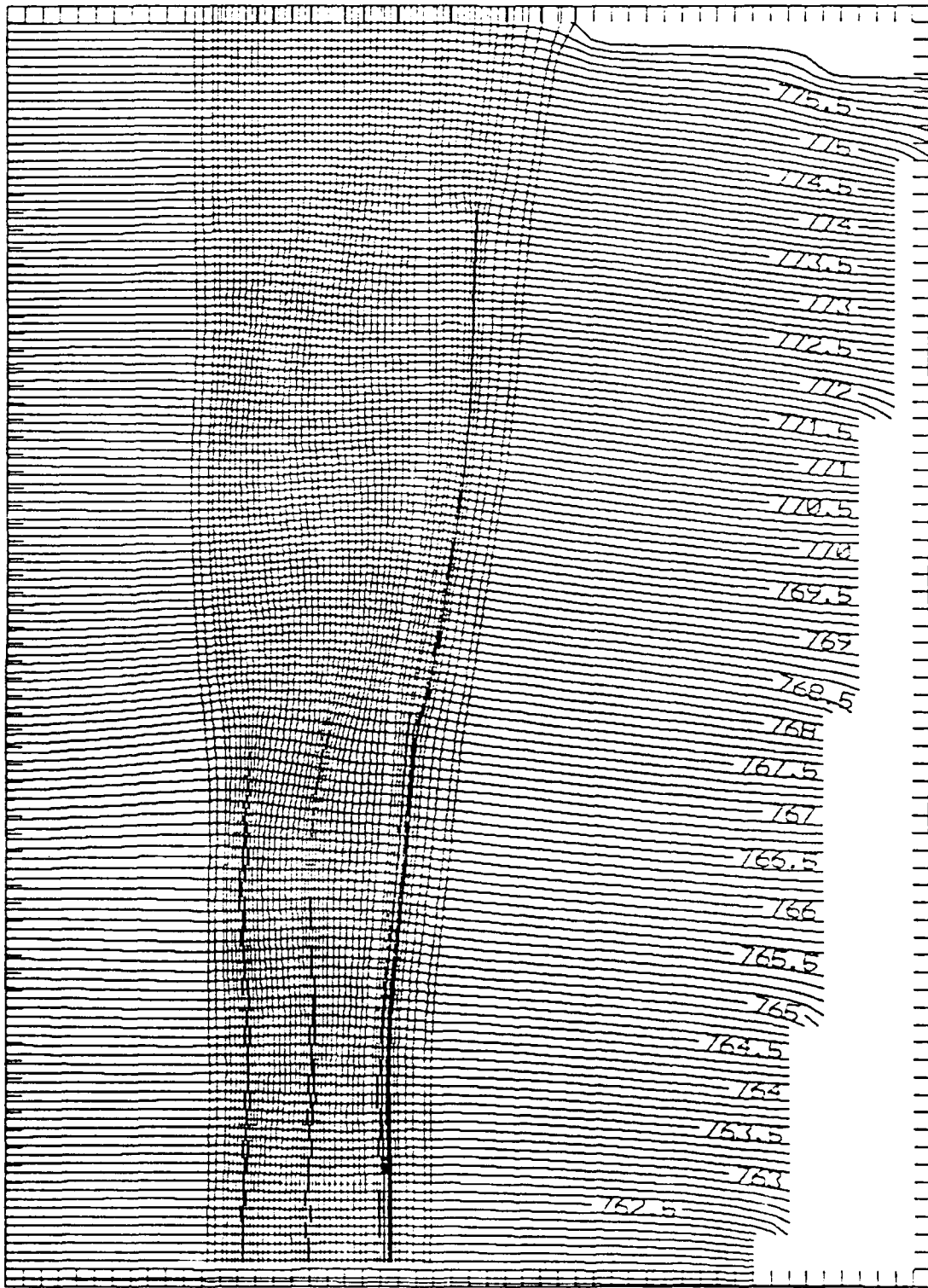
734

63

NOTE: ELEVATION IN FEET MSL.



92100140



9463

8791

8120

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5434

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4091

3420

2748

2077

1405

734

63

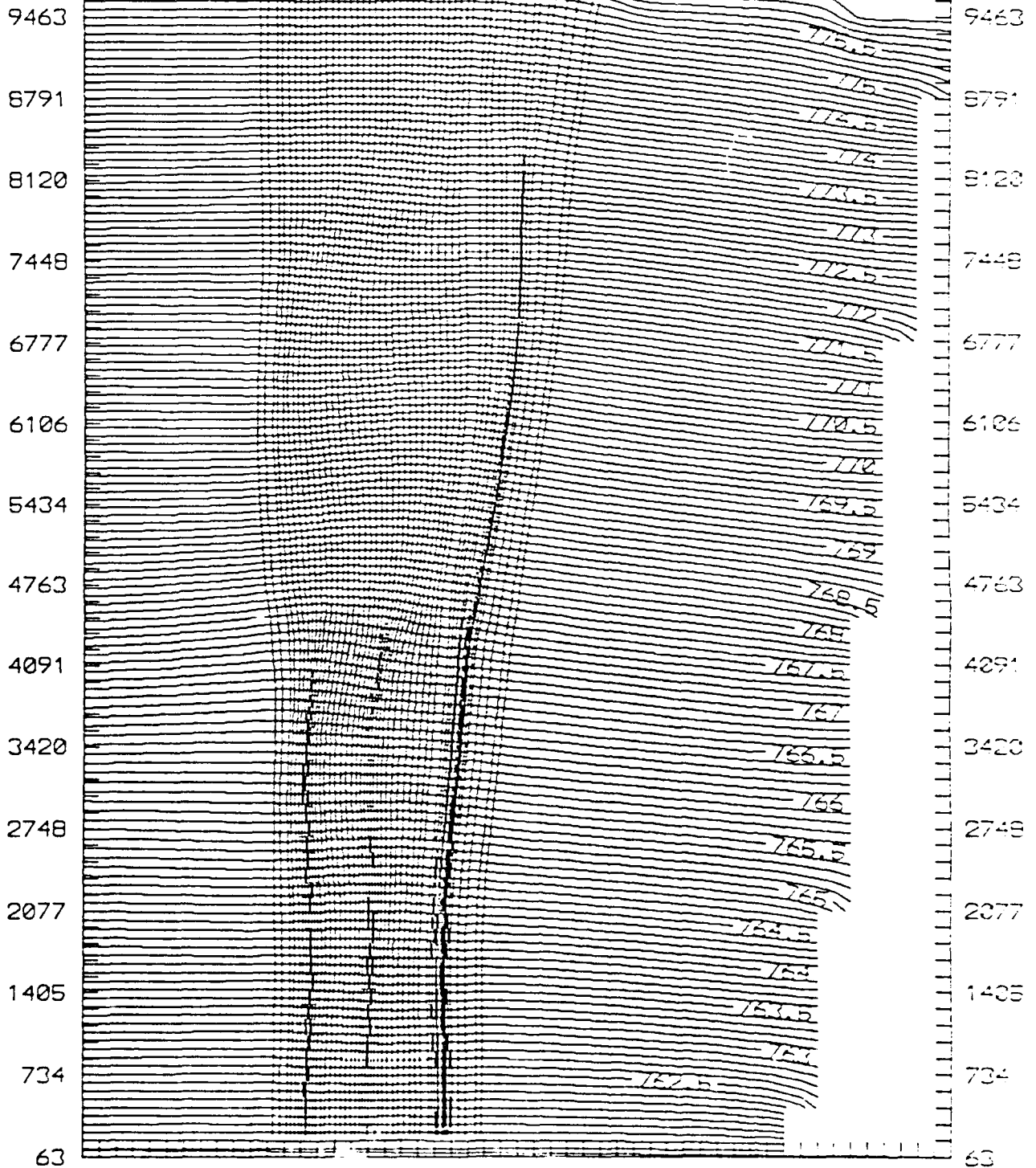
FIGURE J.3-34

CONTOUR INTERVALS AND PARTICLE TRACKING FOR IRM MODEL FOR LAYER 4
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

ABB Environmental Services, Inc.



TEST 1 LAYER 5 - $K = 240 \text{ ft/day}$
 $Q = 60 \text{ gpm}$



NOTE: ELEVATION IN FEET MSL

FIGURE J.3-35
CONTOUR INTERVALS AND PARTICLE TRACKING FOR IRM MODEL FOR LAYER 5
PROPELLANT BURNING GROUND
REMEDIAL INVESTIGATION
BADGER ARMY AMMUNITION PLANT

SCALE IN FEET
0 1200 2400

ABB Environmental Services, Inc.

Box Model

MODFLOW Input Files

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AD-A280438

REMEDIAL INVESTIGATION BADGER ARMY AMMUNITION PLANT
BARABOO WISCONSIN VOLUME 3 APPENDICES G THROUGH J(U)
ABB ENVIRONMENTAL PORTLAND ME 1991 XA-USATHAMA

8574

UNCLASSIFIED

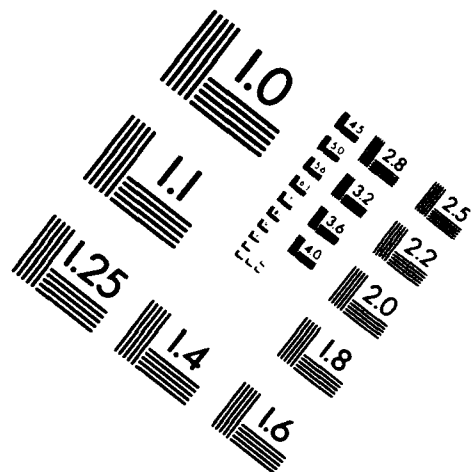
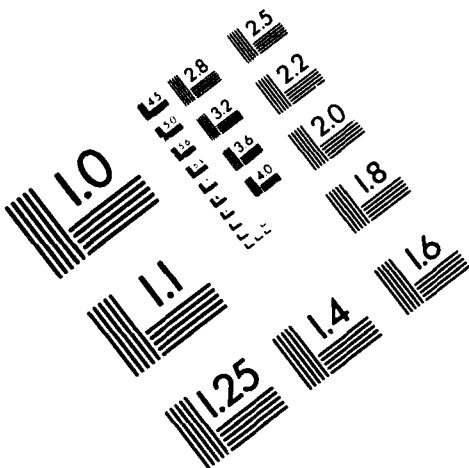
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AIM

Association for Information and Image Management

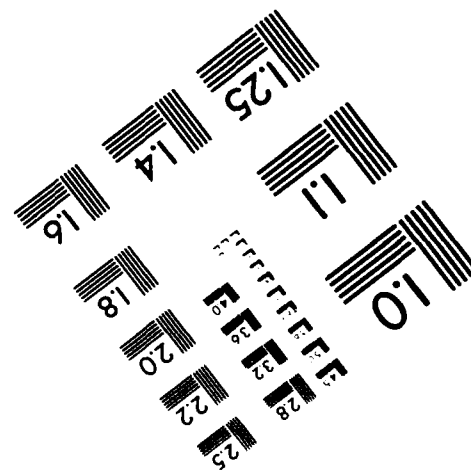
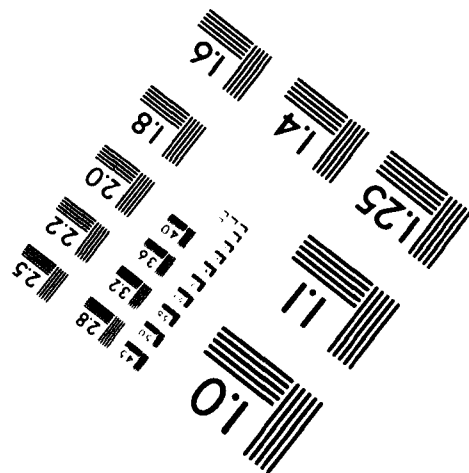
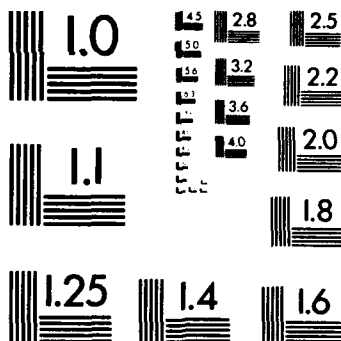
1100 Wayne Avenue, Suite 1100
Silver Spring, Maryland 20910
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Centimeter



Inches



MANUFACTURED TO AIM STANDARDS
BY APPLIED IMAGE, INC.

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Site-Specific Propellant Burning Ground Model

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767.8	767.7	767.7	767.7	767.8	767.8	767.8	767.8	767.9	767.9
767.8	767.8	767.8	767.8	767.7	767.8	767.8	767.8	767.9	767.9
767.9	767.9	767.9	767.9	767.8	767.8	767.7	767.8	767.9	767.9
767.9	768.0	768.0	768.0	768.0	768.1	768.1	768.1	768.2	768.2
768.3	768.3	768.4	768.4	768.5	768.5	768.6	768.8	1000.	1000.
767.9	767.9	767.9	767.9	767.9	767.8	767.8	767.8	767.8	767.7
767.7	767.6	767.4	767.6	767.7	767.7	767.8	767.8	767.8	767.8
767.8	767.8	767.7	767.6	767.4	767.6	767.7	767.8	767.8	767.8
767.8	767.8	767.8	767.8	767.7	767.7	767.5	767.7	767.8	767.8
767.9	767.9	767.9	767.9	768.0	768.0	768.0	768.1	768.1	768.2
768.2	768.3	768.3	768.4	768.4	768.5	768.6	768.8	1000.	1000.
767.8	767.8	767.8	767.8	767.8	767.8	767.7	767.7	767.7	767.7
767.6	767.6	767.5	767.6	767.6	767.7	767.7	767.7	767.7	767.7
767.7	767.7	767.7	767.6	767.6	767.6	767.7	767.7	767.7	767.7
767.7	767.7	767.7	767.7	767.7	767.7	767.6	767.7	767.7	767.8
767.8	767.8	767.8	767.9	767.9	767.9	768.0	768.0	768.1	768.1
768.2	768.2	768.2	768.3	768.3	768.4	768.5	768.7	1000.	1000.
767.8	767.8	767.8	767.7	767.7	767.7	767.7	767.7	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.7	767.7	767.7	767.7	767.6	767.6	767.6	767.6	767.7	767.7
767.7	767.7	767.7	767.7	767.6	767.6	767.6	767.6	767.7	767.7
768.1	768.1	768.2	768.2	768.3	768.3	768.4	768.7	1000.	1000.
767.7	767.7	767.7	767.7	767.7	767.6	767.6	767.6	767.6	767.6
767.6	767.5	767.5	767.5	767.6	767.6	767.6	767.6	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.7	767.7	767.7	767.7	767.8	767.8	767.8	767.9	767.9	768.0
768.0	768.1	768.1	768.1	768.2	768.2	768.3	1000.	1000.	1000.
767.6	767.6	767.6	767.6	767.6	767.6	767.5	767.5	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.6	767.6	767.6	767.7	767.7	767.7	767.7	767.8	767.8	767.9
767.9	768.0	768.0	768.1	768.1	768.2	768.2	1000.	1000.	1000.
767.6	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5	767.5
767.5	767.5	767.6	767.6	767.6	767.6	767.7	767.7	767.8	767.8
767.9	767.9	768.0	768.0	768.0	768.1	768.1	1000.	1000.	1000.
767.5	767.5	767.5	767.5	767.4	767.4	767.4	767.4	767.4	767.4
767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4
767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4
767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.4	767.5	767.5
767.5	767.5	767.5	767.5	767.5	767.6	767.6	767.6	767.7	767.8
767.8	767.8	767.9	767.9	768.0	768.0	768.0	1000.	1000.	1000.

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768.8	768.8	768.9	768.9	769.0	769.0	769.1	769.*	1000.	1000.
768.4	768.4	768.4	768.4	768.4	768.3	768.3	768.3	768.3	768.3
768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3
768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3
768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4	768.4
768.4	768.4	768.4	768.5	768.5	768.5	768.5	768.6	768.6	768.7
768.7	768.8	768.8	768.9	768.	769.0	769.0	769.1	1000.	1000.
768.3	768.3	768.3	768.3	768.	768.3	768.2	768.2	768.2	768.2
768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2
768.2	768.2	768.2	768.2	768.3	768.3	768.3	768.3	768.3	768.3
768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3	768.3
768.3	768.3	768.4	768.4	768.4	768.4	768.5	768.5	768.5	768.5
768.6	768.7	768.7	768.8	768.8	768.9	769.0	769.0	1000.	1000.
768.3	768.3	768.3	768.2	768.2	768.2	768.2	768.1	768.1	768.1
768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.2
768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2
768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2	768.2
768.2	768.3	768.3	768.3	768.3	768.4	768.4	768.4	768.5	768.5
768.6	768.6	768.7	768.7	768.8	768.8	768.9	769.0	1000.	1000.
768.2	768.2	768.2	768.2	768.1	768.1	768.1	768.1	768.1	768.0
768.0	768.0	768.0	768.0	768.0	768.0	768.1	768.1	768.1	768.1
768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1
768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.1	768.2
768.2	768.2	768.2	768.2	768.3	768.3	768.3	768.4	768.4	768.5
768.5	768.5	768.6	768.6	768.7	768.8	768.8	768.9	1000.	1000.
768.1	768.1	768.1	768.1	768.1	768.0	768.0	768.0	768.0	768.0
768.0	767.9	767.9	767.9	768.0	768.0	768.0	768.0	768.0	768.0
768.0	768.0	768.0	768.0	768.0	768.0	768.0	768.0	768.0	768.0
768.0	768.0	768.0	768.0	768.0	768.0	768.0	768.0	768.1	768.1
768.1	768.1	768.1	768.1	768.2	768.2	768.2	768.3	768.3	768.4
768.4	768.5	768.5	768.6	768.6	768.7	768.8	768.9	1000.	1000.
768.1	768.0	768.0	768.0	768.0	768.0	767.9	767.9	767.9	767.9
767.9	767.9	767.8	767.9	767.9	767.9	767.9	767.9	767.9	767.9
767.9	767.9	767.9	767.9	767.9	767.9	767.9	767.9	767.9	768.0
768.0	768.0	768.0	767.9	767.9	767.9	767.9	767.9	768.0	768.0
768.0	768.0	768.0	768.1	768.1	768.1	768.2	768.2	768.3	768.3
768.4	768.4	768.5	768.5	768.5	768.6	768.7	768.8	1000.	1000.
768.0	768.0	768.0	768.0	767.9	767.9	767.9	767.9	767.8	767.8
767.8	767.8	767.7	767.8	767.8	767.8	767.8	767.8	767.9	767.9
767.9	767.8	767.8	767.8	767.8	767.8	767.8	767.9	767.9	767.9
767.9	767.9	767.9	767.9	767.8	767.8	767.8	767.8	767.9	767.9
767.9	768.0	768.0	768.0	768.0	768.1	768.1	768.1	768.2	768.2
768.3	768.3	768.4	768.4	768.5	768.5	768.6	768.8	1000.	1000.
767.9	767.9	767.9	767.9	767.9	767.8	767.8	767.8	767.8	767.7
767.7	767.7	767.5	767.7	767.7	767.7	767.8	767.8	767.8	767.8
767.8	767.8	767.7	767.7	767.5	767.7	767.8	767.8	767.8	767.8
767.8	767.8	767.8	767.8	767.8	767.7	767.6	767.7	767.8	767.8
767.9	767.9	767.9	767.9	768.0	768.0	768.0	768.1	768.1	768.2
768.2	768.3	768.3	768.4	768.4	768.5	768.6	768.8	1000.	1000.
767.8	767.8	767.8	767.8	767.8	767.8	767.7	767.7	767.7	767.7
767.7	767.6	767.6	767.6	767.7	767.7	767.7	767.7	767.7	767.7
767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7
767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.8
767.8	767.8	767.8	767.9	767.9	767.9	768.0	768.0	768.1	768.1
768.1	768.2	768.2	768.3	768.3	768.4	768.5	768.7	1000.	1000.
767.8	767.8	767.8	767.7	767.7	767.7	767.7	767.7	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.7	767.7
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.7	767.7
767.7	767.7	767.7	767.7	767.7	767.7	767.6	767.6	767.7	767.7
767.7	767.7	767.8	767.8	767.8	767.9	767.9	767.9	768.0	768.0
768.1	768.1	768.2	768.2	768.3	768.3	768.4	768.7	1000.	1000.
767.7	767.7	767.7	767.7	767.7	767.6	767.6	767.6	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6	767.6
767.7	767.7	767.7	767.7	767.8	767.8	767.8	767.9	767.9	768.0

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1	34	13	-8648.00
1	34	25	-8648.00
1	34	37	-8648.00
2	7	45	-2903.00
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